3.15 Noise and Vibration

3.15.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

3.15.1.1 California Environmental Quality Act

The California Environmental Quality Act requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this section will focus on the NEPA-23 Code of Federal Regulations (CFR) 772 noise analysis; please see Chapter 4 of this document for further information on noise analysis under CEQA.

3.15.1.2 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and Caltrans, as assigned) involvement, the federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations [CFR] 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table (Table 3.15.A, Noise Abatement Criteria) lists the noise abatement criteria for use in the NEPA 23 CFR 772 analysis. Table 3.15.B lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this section with common activities.

According to Caltrans *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects* (May 2011), a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dB or more increase) or when the future noise level with the project

Table 3.15.A Noise Abatement Criteria for use in NEPA-23-CFR 772 Analysis

Activity Category	NAC, Hourly A-Weighted Noise Level, $L_{eq}(h)$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

Source: *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects,* California Department of Transportation (May 2011).

[1] Includes undeveloped lands permitted for this activity category.

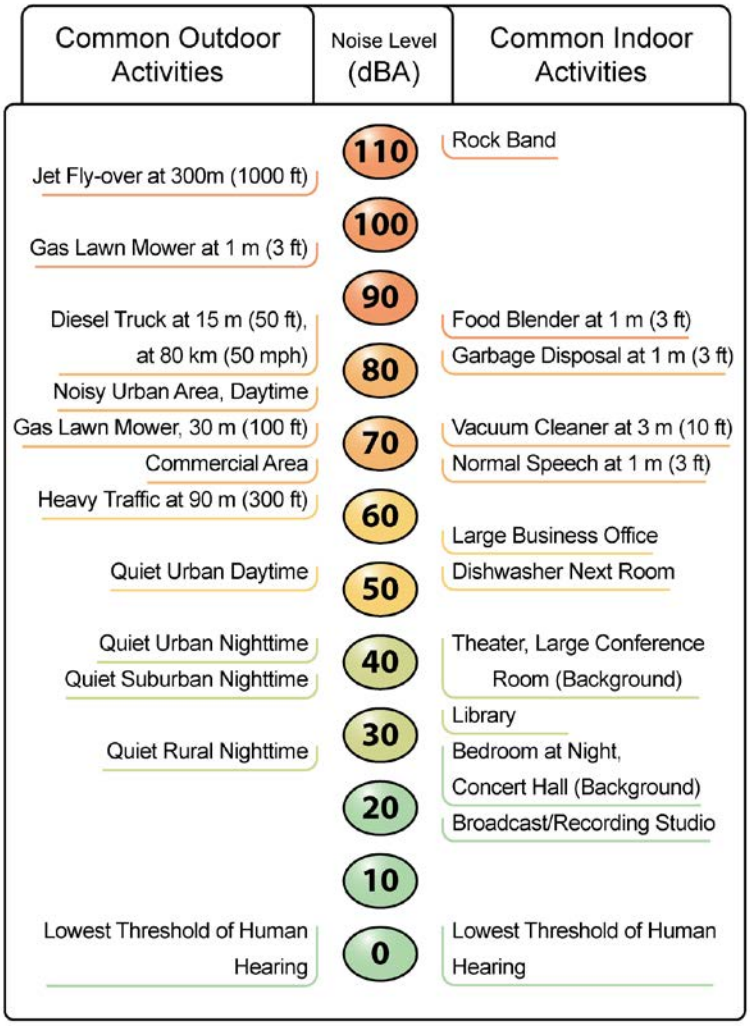
CFR = Code of Federal Regulations

$L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

NAC = Noise Abatement Criteria

NEPA = National Environmental Policy Act

Table 3.15.B Noise Levels of Common Activities



Source: http://www.dot.ca.gov/ser/forms.htm; EIR/EIS Annotated Outline (posted July 12, 2011).

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approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be feasible and reasonable at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is feasible and reasonable. Feasibility of noise abatement is basically an engineering concern. A minimum noise level reduction of 7 dBA at one or more benefited receptors must be achieved for an abatement measure to be considered reasonable. Other considerations include topography, access requirements, other noise sources and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

3.15.2 Affected Environment

This section is based on the *Final Noise Study Report* (January 2012) and the *Noise Abatement Decision Report* (April 2012) prepared for the proposed project.

3.15.2.1 Surrounding Land Use and Sensitive Receptors

Existing land uses in the MCP study area include single-family residential, a recreational vehicle park, schools, a church, a park, office, commercial, industrial, agriculture, and vacant land. Frequent human use areas associated with office and commercial uses are designated outdoor sitting or eating areas where humans can remain for a prolonged period of time (1 hour or more). For commercial uses, only outdoor eating areas associated with sit-down restaurants were considered frequent human use areas because the expected use would be 1 hour or more, whereas, outdoor eating areas associated with fast-food restaurants were not considered frequent outdoor human uses because the expected use would be less than 1 hour. The land uses within the MCP study area are shown on Figure 3.15.1. (Figure 3.15.1 contains 12 pages and is provided at the end of this section to minimize disruptions in the text for the reader.) The existing land uses in the MCP study area are described below in further detail.

- **All Alternatives (Alternatives 4 Modified, 5 Modified, and 9 Modified) along I-215**
  - **West of I-215 between Van Buren Boulevard and Harley Knox Boulevard:** Land uses in this area include a cemetery, vacant land, and industrial uses that are located at a similar elevation to Interstate 215 (I-215). The cemetery has designated outdoor sitting areas that were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq} (equivalent continuous sound level measured in A-weighted decibels). Industrial uses or open spaces were evaluated under Activity Category F for documentation purposes only.
  - **East of I-215 between Van Buren Boulevard and Harley Knox Boulevard:** Land uses in this area include the March Air Reserve Base (and the associated March Field Air Museum), vacant land, and industrial uses that are located at a similar elevation to I-215. The March Field Air Museum was evaluated under Activity Category E, which has an exterior NAC of 72 dBA L_{eq}.
  - **West of I-215 between Harley Knox Boulevard and Cajalco Road/ Ramona Expressway:** Land uses in this area include vacant land and industrial uses that are located at a similar elevation to I-215. Industrial uses or open space were evaluated under Activity Category F for documentation purposes only.
  - **East of I-215 between Harley Knox Boulevard and Cajalco Road/Ramona Expressway:** Land uses in this area include single-family residences, a recreational vehicle park, a church, vacant land, commercial, and industrial uses that are located at a similar elevation to I-215. There is an existing 3-foot-high highway safety barrier between I-215 and receptors starting south of Markham Street and continuing north until just south of Oleander Avenue. Residential land uses were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Commercial uses with outdoor active use areas were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. A meeting room of Templo Calvario Church was evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}. Commercial or industrial uses without outdoor active use areas were evaluated under Activity Category F for documentation purposes only.
  - **West of I-215 between Cajalco Road/Ramona Expressway and Placentia Avenue:** Land uses in this area include vacant land, commercial, and industrial uses that are located up to 15 feet (ft) higher in elevation than I-215.

One commercial use with an outdoor eating area (i.e., fast-food restaurant) was evaluated under Activity Category E, which has an exterior NAC of 72 dBA L_{eq}. Commercial uses without outdoor active use areas and industrial and agricultural uses were evaluated under Activity Category F for documentation purposes only.

- **East of I-215 between Cajalco Road/Ramona Expressway and Placentia Avenue:** Land uses in this area include one school, vacant land, single-family residences, commercial, and office uses. Single-family residences located north of Placentia Avenue are located up to 20 ft lower in elevation than I-215. Other uses are located up to 10 ft lower in elevation than I-215. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Office uses were evaluated under Activity Category E, which has an exterior NAC of 72 dBA L_{eq}. One commercial use with no outdoor active use area was evaluated under Activity Category F. Val Verde High School outdoor active use areas were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. Val Verde High School classrooms were evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}.
- **West of I-215 between Placentia Avenue and Harvill Avenue/Nuevo Road:** Land uses in this area include one private recreational use and vacant land, commercial, and industrial uses that are located at a similar elevation to I-215. There is an existing 3 ft high highway safety barrier between I-215 and the private recreational receptor use located at the Salvation Army/ rehabilitation facility. The private recreational use was evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. One commercial use with no outdoor active use area was evaluated under Activity Category F.
- **East of I-215 between Placentia Avenue and Harvill Avenue/Nuevo Road:** Land uses in this area include one school, single-family residences, and vacant land that are located up to 20 ft lower in elevation than I-215. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Val Verde Elementary School outdoor active use areas were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. Val Verde Elementary School classrooms were evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}.

- **West of I-215, south of Harvill Avenue/Nuevo Road:** Land uses in this area include one school, single-family residences, vacant land, and office uses that are located at a similar elevation to I-215. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Nan Sanders Elementary School outdoor active use areas were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. Nan Sanders Elementary School classrooms were evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}. The office use was evaluated under Activity Category E, which has an exterior NAC of 72 dBA L_{eq}.
- **East of I-215, south of Harvill Avenue/Nuevo Road:** Land uses in this area include single-family residences, vacant land, and commercial uses that are located at a similar elevation to I-215. An existing 6 ft to 11.33 ft wall (S1-EW No. 11) is located between I-215 and single-family residences north of Bowen Road. There is also an existing 13.5 ft wall (S1-EW No. 14) located between I-215 and single-family residences beginning just north of Bowen Road and continuing south to the MCP project's southern limit. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. One commercial use with no outdoor active use area was evaluated under Activity Category F.

- **Alternative 4 Modified between I-215 and Ramona Expressway/Antelope Road**
  - **South of Alternative 4 Modified, west of Perris Boulevard:** Land uses in this area include vacant land, single-family residences, and commercial uses that are located at a similar elevation to Ramona Expressway. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Commercial uses with no outdoor active use areas were evaluated under Activity Category F.
  - **North of Alternative 4 Modified, west of Perris Boulevard:** Land uses in this area include vacant land, single-family residences, and commercial uses that are located at a similar elevation to Ramona Expressway. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Commercial uses with outdoor active use areas (i.e., fast-food restaurants) were evaluated under Activity Category E, which has an exterior NAC of 72 dBA L_{eq}.

- **West of Alternative 4 Modified between Perris Boulevard and Evans Road:** Land uses in this area include vacant land, single-family residences, a camping area (which is considered a residence), and commercial uses that are located at a similar elevation to adjacent local roadways (e.g., Ramona Expressway, Wilson Avenue, Placentia Avenue, and Evans Road). Single-family residences and the camping area were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Commercial uses with no outdoor active use areas were evaluated under Activity Category F.
- **East of Alternative 4 Modified between Perris Boulevard and Evans Road:** Land uses in this area include vacant land, a park, and single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Ramona Expressway, Rider Street, and Evans Road). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. The park was evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}.
- **South of Alternative 4 Modified between Evans Road and Approved Future Development in McCanna Hills:** Land uses in this area include single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Evans Road, El Nido Avenue, and Eureka Avenue). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
- **North of Alternative 4 Modified between Evans Road and Approved Future Development in McCanna Hills:** Land uses in this area include a park and single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Evans Road, El Nido Avenue, and Eureka Avenue) except for the park. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. The park was evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}.
- **South of Alternative 4 Modified between Approved Future Development in McCanna Hills and Ramona Expressway:** Land uses in this area include vacant land and future residences at the approved McCanna Hills development that are located in hilly mountain terrain. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. One vacant land/open space was evaluated under Activity Category G.
- **North of Alternative 4 Modified between Approved Future Development in McCanna Hills and Ramona Expressway:** Land uses in this area include

two schools, vacant land, and future residences at the approved McCanna Hills development that are located in hilly mountain terrain. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Sierra Vista Elementary School and Lakeside Middle School outdoor active use areas were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. Sierra Vista Elementary School and Lakeside Middle School classrooms were evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}.

- **Alternative 5 Modified between I-215 and Ramona Expressway/Antelope Road**
  - **South of Alternative 5 Modified between Indian Avenue and Perris Boulevard:** Land uses in this area include one commercial property with no outdoor active use areas, which was evaluated under Activity Category F.
  - **North of Alternative 5 Modified between Indian Avenue and Perris Boulevard:** Land uses in this area include vacant land that was not evaluated because it is not considered to be a noise sensitive use.
  - **South of Alternative 5 Modified between Perris Boulevard and Evans Road:** Land uses in this area include vacant land, agricultural/industrial land, single-family residences, and commercial uses that are located at a similar elevation to adjacent local roadways (e.g., Rider Street, Perris Boulevard, Placentia Avenue, Wilson Avenue, Murrieta Road, and Evans Road). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
  - **North of Alternative 5 Modified between Perris Boulevard and Evans Road:** Land uses in this area include vacant land, agricultural/industrial land, single-family residences, and commercial uses that are located at a similar elevation to adjacent local roadways (e.g., Rider Street, Perris Boulevard, Placentia Avenue, Wilson Avenue, and Evans Road). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. One commercial use with no outdoor active use area was evaluated under Activity Category F.
  - **South of Alternative 5 Modified between Evans Road and Approved Future Development in McCanna Hills:** Land uses in this area include single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Evans Road, El Nido Avenue, and Eureka Avenue). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.

- **North of Alternative 5 Modified between Evans Road and Approved Future Development in McCanna Hills:** Land uses in this area include a park and single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Evans Road, El Nido Avenue, and Eureka Avenue) except for the park. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. The park was evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}.
- **South of Alternative 5 Modified between Approved Future Development in McCanna Hills and Ramona Expressway:** Land uses in this area include vacant land and future residences at the approved McCanna Hills development that are located in hilly mountain terrain. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. One vacant land/open space was evaluated under Activity Category G.
- **North of Alternative 5 Modified between Approved Future Development in McCanna Hills and Ramona Expressway:** Land uses in this area include two schools, vacant land, and future residences at the approved McCanna Hills development that are located in hilly mountain terrain. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Sierra Vista Elementary School and Lakeside Middle School outdoor active use areas were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. Sierra Vista Elementary School and Lakeside Middle School classrooms were evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}.

- **Alternative 9 Modified between I-215 and Ramona Expressway/Antelope Road**
  - **South of Alternative 9 Modified, west of Redlands Avenue:** Land uses in this area include a park, vacant land, industrial land, and single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Placentia Avenue, Redlands Avenue, and Perris Boulevard). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. The park was evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}.
  - **North of Alternative 9 Modified, west of Redlands Avenue:** Land uses in this area include vacant land, agriculture/industrial land, and single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Placentia Avenue, Redlands Avenue, and Perris Boulevard). Single-

family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.

- **South of Alternative 9 Modified between Redlands Avenue and Evans Road:** Land uses in this area include vacant land, agriculture land, and single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Placentia Avenue, Redlands Avenue, Wilson Avenue, and Evans Road). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
- **North of Alternative 9 Modified between Redlands Avenue and Evans Road:** Land uses in this area include vacant land, agriculture land, and single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Placentia Avenue, Redlands Avenue, Wilson Avenue, and Evans Road). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
- **South of Alternative 9 Modified between Evans Road and Approved Future Development in McCanna Hills:** Land uses in this area include single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Evans Road, El Nido Avenue, and Eureka Avenue). Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
- **North of Alternative 9 Modified between Evans Road and Approved Future Development in McCanna Hills:** Land uses in this area include a park and single-family residences that are located at a similar elevation to adjacent local roadways (e.g., Evans Road, El Nido Avenue, and Eureka Avenue) except for the park. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. The park was evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}.
- **South of Alternative 9 Modified between Approved Future Development in McCanna Hills and Ramona Expressway:** Land uses in this area include vacant land and future residences at the approved McCanna Hills development that are located in hilly mountain terrain. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. One vacant land/open space was evaluated under Activity Category G.
- **North of Alternative 9 Modified between Approved Future Development in McCanna Hills and Ramona Expressway:** Land uses in this area include two schools, vacant land, and future residences at the approved McCanna

Hills development that are located in hilly mountain terrain. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Sierra Vista Elementary School and Lakeside Middle School outdoor active use areas were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. Sierra Vista Elementary School and Lakeside Middle School classrooms were evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}.

- **All Alternatives (Alternatives 4 Modified, 5 Modified, and 9 Modified) from Ramona Expressway/Antelope Road to the future State Route 79 (SR-79)**
  - **North of Ramona Expressway, west of Antelope Road:** Land uses in this area include vacant land that was not evaluated because it is not considered to be a noise sensitive use.
  - **South of Ramona Expressway, west of Antelope Road:** Land uses in this area include vacant land and future residences at the approved Stoneridge development that are located lower in elevation than Ramona Expressway. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
  - **North of Ramona Expressway between Antelope Road and Bernasconi Road:** Land uses in this area include vacant land that was not evaluated because it is not considered to be a noise sensitive use.
  - **South of Ramona Expressway between Antelope Road and Bernasconi Road:** Land uses in this area include vacant land and future residences at the approved Community Southwest development that are located lower in elevation than Ramona Expressway. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
  - **North of Ramona Expressway between Bernasconi Road and Martin Street:** Land uses in this area include vacant land that was not evaluated because it is not considered to be a noise sensitive use.
  - **South of Ramona Expressway between Bernasconi Road and Martin Street:** Land uses in this area include vacant land, agricultural land, and future residences at the approved Community Southwest development that are located lower in elevation than Ramona Expressway. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
  - **North of Ramona Expressway between Martin Street and Lakeview Avenue:** Land uses in this area include vacant land, agricultural land, and future residences at the approved The Villages of Lakeview development and

a future park at The Villages of Lakeview development that are located at a similar elevation to Ramona Expressway. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. The future park was evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}.

- **South of Ramona Expressway between Martin Street and Lakeview Avenue:** Land uses in this area include vacant land, agricultural land, one single-family residence, and an industrial use with trailers that are located at a similar elevation to Ramona Expressway. The single-family residence was evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. The industrial use will be removed under all future build alternatives and was, therefore, not evaluated.
- **North of Ramona Expressway between Lakeview Avenue and Davis Road/Hansen Avenue:** Land uses in this area include vacant land, agricultural land, and future residences at the proposed The Villages of Lakeview development that are located at a similar elevation to Ramona Expressway. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
- **South of Ramona Expressway between Lakeview Avenue and Davis Road/Hansen Avenue:** Land uses in this area include commercial, single-family residences, and one school that are located at a similar elevation to Ramona Expressway. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Two commercial uses with no outdoor active use areas were evaluated under Activity Category F. Jesus Center Christian School outdoor active use areas were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}. Jesus Center Christian School classrooms were evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}.
- **North of Ramona Expressway between Davis Road/Hansen Avenue and Sixth Street:** Land uses in this area include agricultural land, one single-family residence, and future residences at the proposed The Villages of Lakeview development that are located at a similar elevation to Ramona Expressway. One single-family residence and future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.

- **South of Ramona Expressway between Davis Road/Hansen Avenue and Sixth Street:** Land uses in this area include agricultural land, a sports field, future residences at the proposed The Villages of Lakeview development and a future park at The Villages of Lakeview development that are located at a similar elevation to Ramona Expressway. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. The sports field and future park were evaluated under Activity Category C, which has an exterior NAC of 67 dBA L_{eq}.
- **North of Ramona Expressway between Sixth Street and Bridge Street:** Land uses in this area include agricultural land and single-family residences that are located at a similar elevation to Ramona Expressway. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Agricultural land uses were evaluated under Activity Category F for documentation purposes only.
- **South of Ramona Expressway between Sixth Street and Bridge Street:** Land uses in this area include agricultural land and future residences at the proposed The Villages of Lakeview development that are located at a similar elevation to Ramona Expressway. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
- **North of Ramona Expressway between Bridge Street and Gateway Avenue:** Land uses in this area include vacant land, agricultural land, and a single-family residence that are located at a similar elevation to Ramona Expressway. The single-family residence would be removed as part of the project and was, therefore, not evaluated.
- **South of Ramona Expressway between Bridge Street and Gateway Avenue:** Land uses in this area include vacant land, agricultural land, and future residences at the proposed The Villages of Lakeview development that are located at a similar elevation to Ramona Expressway. Future residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}. Agricultural land uses were evaluated under Activity Category F for only documentation purposes.
- **North of Ramona Expressway between Gateway Avenue and Warren Road:** Land uses in this area include vacant land, agricultural land, and single-family residences that are located at a similar elevation to Ramona Expressway. A small portion of the area is located approximately 60 ft higher in elevation than Ramona Expressway. Single-family residences were

evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.

- **South of Ramona Expressway between Gateway Avenue and Warren Road:** Land uses in this area include vacant land, agricultural land, and single-family residences that are located at a similar elevation to Ramona Expressway. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
- **North of Ramona Expressway between Warren Road and Sanderson Avenue:** Land uses in this area include vacant land, agricultural land, and single-family residences that are located at a similar elevation to Ramona Expressway. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.
- **South of Ramona Expressway between Warren Road and Sanderson Avenue:** Land uses in this area include vacant land and agricultural land that are located at a similar elevation to Ramona Expressway and Warren Road. Agricultural land uses were evaluated under Activity Category F for documentation purposes only.
- **North of Ramona Expressway, east of Sanderson Avenue:** Land uses in this area include vacant land that was not evaluated because it is not considered to be a noise sensitive use.
- **South of Ramona Expressway, east of Sanderson Avenue:** Land uses in this area include vacant land and single-family residences that are located at a similar elevation to Ramona Expressway and Sanderson Avenue. Single-family residences were evaluated under Activity Category B, which has an exterior NAC of 67 dBA L_{eq}.

3.15.2.2 Noise Level Measurements

The primary source of noise in the project study area is traffic on I-215, Ramona Expressway, Sanderson Avenue, and adjacent local streets. Short-term (15-minute) noise measurements were conducted to document existing noise levels at 63 representative frequent outdoor use areas along the project alignments. Short-term (15-minute) noise level measurements were performed using Larson Davis Models 831, 824, and 820 Type 1 sound level meters. Table 3.15.C contains the results of the short-term noise level measurements along with a description of the physical locations of the noise monitoring sites. The short-term monitoring locations are shown on Figure 3.15.1.

Table 3.15.C Short-Term Ambient Noise Monitoring Results

Monitor No.	Land Use/ Location	Location Description	Noise Sources	Comments	Date	Start Time	Duration	dBA L_{eq}
ST-1	Cemetery	Riverside National Cemetery; seating area closest to I-215	Traffic on I-215, Van Buren southbound on-ramp, birds (faint)	Berms between I-215 and the cemetery; a few visitors	3/15/2011	8:50 a.m.	15 minutes	51.7
ST-2	Air Force Museum	March Field Air Museum; in memorial lawn area, middle of sidewalk between the benches	Traffic on I-215	Wall heights of 3–8 ft	4/19/2011	3:21 p.m.	15 minutes	58.9
ST-3	Residential	4715 Wade Avenue; RV park; backyard	Traffic on I-215	Very light traffic on Wade Avenue; no existing walls; 3 ft safety barrier on edge of I-215 shoulder	3/15/2011	8:14 a.m.	15 minutes	63.8
ST-4	Residential	4715 Wade Avenue; RV backyard, second row	Traffic on I-215, birds	No existing walls; 3 ft safety barrier on edge of I-215 shoulder	4/20/2011	11:15 a.m.	15 minutes	60.3
ST-5	Residential	4605 Wade Avenue	Traffic on I-215, brief construction on site	No existing walls	3/15/2011	8:14 a.m.	15 minutes	63.9
ST-6	Commercial Outdoor Eating Area	4431 Wade Avenue	Traffic on I-215	Very light traffic on Wade Avenue; 3 ft safety barrier on edge of I-215 shoulder	3/15/2011	9:44 a.m.	15 minutes	65.9
ST-7	Residential	1209 Peary Street; 21 ft north of house	Traffic on I-215, birds	No existing walls	4/19/2011	2:17 p.m.	15 minutes	62.0
ST-8	Commercial Outdoor Eating Area	23261A, AM/PM fast-food outdoor seating area, benches	Traffic on Cajalco Road and Harvill, parking lot noises	No existing walls	3/15/2011	2:57 p.m.	15 minutes	62.7
ST-9	Residential	4062 Brennan Avenue; backyard	Traffic on Ramona Expressway, birds	No existing walls	3/15/2011	3:00 p.m.	15 minutes	50.2
ST-10	School	972 Morgan Street; Val Verde High School; closest to I-215	Traffic on I-215	No existing walls	3/16/2011	3:21 p.m.	15 minutes	64.7
ST-11	Residential	2888 Susan Lane; backyard	Birds, distant school children	6 ft wood fence on western property line	3/15/2011	10:13 a.m.	15 minutes	54.4
ST-12	Residential	2804 Indian Avenue; backyard	Birds, traffic on I-215, Indian Avenue and Placentia Avenue	Chain-link fence, no existing walls	3/15/2011	9:10 a.m.	15 minutes	50.1
ST-13	School	2658 Indian Avenue; Val Verde Elementary School outdoor use area	Traffic on I-215 and Frontage Road	Chain-link fence, no existing walls	3/16/2011	4:11 p.m.	15 minutes	55.1

Table 3.15.C Short-Term Ambient Noise Monitoring Results

Monitor No.	Land Use/ Location	Location Description	Noise Sources	Comments	Date	Start Time	Duration	dBA L_{eq}
ST-14	Private Recreational Facility	Salvation Army/rehabilitation facilities; near volleyball courts and tables	Traffic on I-215 and Frontage Road, geese	Chain-link fence, no existing walls	3/15/2011	9:10 a.m.	15 minutes	56.2
ST-15	School	1461 North A Street; Nan Sanders Elementary School outdoor use area	Traffic on I-215 and Nuevo southbound off-ramp	No existing walls	5/12/2011	7:35 a.m.	15 minutes	63.0
ST-16	Residential	248 Coliseum Street	Traffic on I-215; birds	12 ft masonry sound wall on western property line; 6.5–9 ft masonry wall on northern property line	3/17/2011	8:25 a.m.	15 minutes	62.1
ST-17	Residential	1268 Fenway Lane; backyard; approximately 35 to 40 ft from sound wall	Traffic on I-215; birds, dog	12 ft masonry sound wall on western property line	3/17/2011	8:25 a.m.	15 minutes	60.1
ST-18	Residential	1273 Fenway Lane; in front of house on sidewalk, 13 ft north of driveway	Traffic on I-215; birds	All two-story homes on this street	4/19/2011	12:54 p.m.	15 minutes	54.7
ST-19	Residential	4111 Barrett Avenue; front yard seating area	Traffic on Ramona Expressway; birds, light traffic on Barrett Avenue	No existing walls	3/15/2011	3:00 p.m.	15 minutes	54.0
ST-20	Residential	375 Ramona Expressway; Camper Resorts of America; plot closest to Ramona Expressway	Traffic on Ramona Expressway	No existing walls	3/15/2011	3:43 p.m.	15 minutes	66.7
ST-21	Residential	3722 Veronica Avenue; backyard	Traffic on Ramona Expressway; wind chimes	6 ft plastic fence on both sides of yard	3/15/2011	3:43 p.m.	15 minutes	49.9
ST-22	Park	Morgan Street Park	Dogs, recreationists, birds	No existing walls	3/17/2011	9:55 a.m.	15 minutes	47.0
ST-23	Residential	3120 Santo Tomas Avenue; backyard	Traffic on Perris Boulevard, dogs, children	6 ft masonry sound wall on western property line; 8 ft on Perris Boulevard side	3/15/2011	4:00 p.m.	15 minutes	61.4
ST-24	Residential	102 El Rosario Drive; backyard	Traffic on Rider Street	6 ft wood fence	3/15/2011	4:00 p.m.	15 minutes	62.2

Table 3.15.C Short-Term Ambient Noise Monitoring Results

Monitor No.	Land Use/ Location	Location Description	Noise Sources	Comments	Date	Start Time	Duration	dBA L_{eq}
ST-25	Residential	169 Galileo Place; backyard	Traffic on Placentia Avenue; children	6 ft masonry sound wall above backyard elevation on southern property line; 6 ft plastic fence on eastern and western property lines	3/15/2011	4:56 p.m.	15 minutes	51.7
ST-26	Residential	212 Spectacular Bid Street; backyard	Traffic on Placentia Avenue; children	5 ft gypsum concrete wall/fence on northern property line; 5 ft wood fences on eastern and western property lines	3/15/2011	5:44 p.m.	15 minutes	57.1
ST-27	Residential	329 Jubilee Court; backyard	Traffic on Placentia; birds, miscellaneous neighborhood noises	6 ft masonry sound wall above backyard elevation on southern property line; 6 ft plastic fence on eastern and western property lines	3/15/2011	4:56 p.m.	15 minutes	52.2
ST-28	Residential	561 Placentia Avenue; front yard seating area	Traffic on Placentia Avenue	Chain-link fence, no existing walls	3/15/2011	6:33 p.m.	15 minutes	59.5
ST-29	Residential	691 Placentia Avenue; backyard	Dogs	No existing walls	3/15/2011	4:25 p.m.	15 minutes	46.3
ST-30	Residential	3028 Clapper Street; backyard	Traffic on Ramona Expressway (faint)	6 ft plastic fence on both sides of yard (back side is open)	3/15/2011	4:25 p.m.	15 minutes	44.5
ST-31	Residential	922 Sparrow Way	Children, birds, dogs, light traffic on Sparrow Way, miscellaneous neighborhood noises	6 ft vinyl fences on residential property line	3/15/2011	5:12 p.m.	15 minutes	44.0
ST-32	Residential	2930 Sandgrouse Way; in front	Light traffic on Sparrow Way; dogs		3/16/2011	5:15 p.m.	15 minutes	50.9
ST-33	Residential	2981 Barn Owl Drive; backyard	Traffic on Evans Road; birds	10 ft masonry sound wall	3/15/2011	5:45 p.m.	15 minutes	51.6
ST-34	Residential	20400 Evans Road; in front	Traffic on Evans Road; birds, dogs	No existing walls	3/15/2011	5:45 p.m.	15 minutes	56.2
ST-35	Residential	20463 El Nido Avenue; backyard	Light traffic on El Nido Avenue; birds, distant construction	Chain-link fence, no existing walls	3/17/2011	10:05 a.m.	15 minutes	50.7
ST-36	Residential	20440 Eureka Avenue; backyard	Dogs, aircraft (faint)	No traffic on Eureka Avenue; no existing walls	3/17/2011	10:25 a.m.	15 minutes	46.7

Table 3.15.C Short-Term Ambient Noise Monitoring Results

Monitor No.	Land Use/ Location	Location Description	Noise Sources	Comments	Date	Start Time	Duration	dBA L_{eq}
ST-37	Future Residential	McCanna Hills future development area; north of proposed alignment	Birds (faint)	Vacant land	3/17/2011	9:20 a.m.	15 minutes	40.0
ST-38	School	20300 Sherman Road; Sierra Vista Elementary School; outdoor playground area	Children, Ramona Expressway (faint), dogs (faint), aircraft (faint)	No existing walls	3/16/2011	3:02 p.m.	15 minutes	48.3
ST-39	School	27720 Walnut Street; Lakeside Middle School; bleachers	Traffic on Ramona Expressway	No existing walls	3/16/2011	4:17 p.m.	15 minutes	56.9
ST-40	Residential	26555 Evans Avenue; front yard swing set area	Traffic on Evans Road; children, aircraft (faint)	5-6 ft wall on southern property line	3/17/2011	4:21 p.m.	15 minutes	50.7
ST-41	Residential	26561 Placentia Avenue; backyard	Traffic on Evans Road	No existing walls	4/28/2011	5:58 p.m.	15 minutes	55.5
ST-42	Residential	20610 El Nido Avenue; backyard	Traffic on El Nido Avenue; birds, horses	No existing walls	3/17/2011	9:51 a.m.	15 minutes	47.9
ST-43	Residential	20510 Eureka Avenue; backyard	Birds	No existing walls; one vehicle pass-by on Eureka Avenue	4/27/2011	11:15 a.m.	15 minutes	46.1
ST-44	Future Residential	McCanna Hills future development area; south of proposed alignment	Birds, Ramona Expressway (faint)	Vacant land	3/17/2011	9:22 a.m.	15 minutes	37.2
ST-45	Future Residential	Stoneridge future development area	Ramona Expressway (faint); aircraft (faint)	Vacant land	3/17/2011	3:30 p.m.	15 minutes	47.8
ST-46	Future Residential	Community Southwest future development area; Pozos Road	Traffic on Ramona Expressway	No traffic on Pozos Road; vacant land/agricultural land	3/16/2011	9:43 a.m.	15 minutes	54.0
ST-47	Future Residential	Community Southwest future development area; along edge of field, south of Ramona Expressway, east of Bernasconi Road	Traffic on Ramona Expressway	Vacant land/agricultural land	4/20/2011	1:06 p.m.	15 minutes	57.9
ST-48	Residential	Davis Street at Ramona Expressway; only house (street address illegible)	Traffic on Ramona Expressway; birds	Chain-link fence, no existing walls	3/16/2011	8:33 a.m.	15 minutes	57.3
ST-49	Future Residential	The Villages of Lakeview future development area; Resort Village area	Traffic on Ramona Expressway	Vacant land	3/16/2011	9:10 a.m.	15 minutes	62.0

Table 3.15.C Short-Term Ambient Noise Monitoring Results

Monitor No.	Land Use/ Location	Location Description	Noise Sources	Comments	Date	Start Time	Duration	dBA L_{eq}
ST-50	Residential	30661 Reservoir Avenue	Birds, traffic on Lakeview Avenue and Ramona Expressway	No traffic on Reservoir Avenue; no existing walls	3/16/2011	9:11 a.m.	15 minutes	51.1
ST-51	School/Church	19560 Magnolia Avenue; Jesus Center Christian School outdoor use area	Traffic on Ramona Expressway; birds, light traffic on Reservoir Avenue	2 ft masonry wall	3/16/2011	7:29 a.m.	15 minutes	62.5
ST-52	Sports Field	Mystic Field outdoor use area; near third-base dugout benches	Traffic on Ramona Expressway and Hansen Avenue; birds	No existing walls	3/16/2011	8:33 a.m.	15 minutes	55.7
ST-53	Residential	32100 Ramona Expressway	Traffic on Ramona Expressway	3-4 ft masonry sound wall on southern and eastern property lines	3/16/2011	7:25 a.m.	15 minutes	59.9
ST-54	Residential	32190 Ramona Expressway; dairy farm; backyard near pool	Traffic on Ramona Expressway; birds, cows, tractors, construction (faint)	5 ft masonry wall on northern property line	3/16/2011	7:25 a.m.	15 minutes	54.1
ST-55	Residential	32920 Ramona Expressway; Offinga Dairy	Traffic on Ramona Expressway; birds, miscellaneous farm noises	Metal gate, no existing walls	4/20/2011	3:20 p.m.	15 minutes	52.4
ST-56	Future Residential	The Villages of Lakeview future development area; Town Center Village area	Traffic on Ramona Expressway; tractor	Vacant land	3/16/2011	7:56 a.m.	15 minutes	62.8
ST-57	Future Residential	The Villages of Lakeview future development area; Enclave Village area	Traffic on Ramona Expressway	Vacant land/agricultural land	3/16/2011	8:13 a.m.	15 minutes	54.1
ST-58	Residential	3550 Ramona Expressway	Traffic on Ramona Expressway; birds, miscellaneous farm noises	No existing walls	4/20/2011	5:00 p.m.	15 minutes	55.6
ST-59	Residential	1970 Warren Road; backyard	Traffic on Ramona Expressway and Warren Road; birds, miscellaneous farm noises	No existing walls	3/16/2011	9:13 a.m.	15 minutes	55.1
ST-60	Residential	Residence on Warren Road, north of Ramona Expressway	Traffic on Ramona Expressway; birds	No existing walls	3/16/2011	9:13 a.m.	15 minutes	55.1

Table 3.15.C Short-Term Ambient Noise Monitoring Results

Monitor No.	Land Use/ Location	Location Description	Noise Sources	Comments	Date	Start Time	Duration	dBA L_{eq}
ST-61	Residential	35750 Ramona Expressway; backyard	Traffic on Ramona Expressway; aircraft (faint), birds, miscellaneous farm noises	No existing walls	3/17/2011	11:30 a.m.	15 minutes	60.6
ST-62	Residential	1996 Ramona Boulevard; backyard	Traffic on SR-79 (faint); dogs, birds, aircraft (faint)	Very light traffic on Ramona Boulevard; no existing walls	3/16/2011	9:45 a.m.	15 minutes	54.4
ST-63	Residential	1727 Sanderson Avenue; north edge of driveway	Traffic on Sanderson Avenue; birds	No existing walls	4/20/2011	4:00 p.m.	15 minutes	64.7

Source: *Final Noise Study Report* (January 2012).
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels
ft = foot/feet
I-215 = Interstate 215
RV = recreational vehicle
SR-79 = State Route 79

Long-term 24-hour noise level measurements were conducted at 12 locations throughout the project area, as shown in Figure 3.15.1. Long-term measurements were conducted using Larson Davis Models 824, 720, and three 820 Type 1 sound level meters. The measurements were conducted at existing single-family residences, and at future approved and proposed residential developments. The purpose of this measurement is to describe variations in sound levels throughout the day over a 24-hour period. The long-term noise level measurements were conducted from Tuesday, March 15, 2011, to Wednesday, April 27, 2011. The results of the long-term 24-hour monitoring at the 12 sites are shown in Tables 3.15.D through 3.15.O.

In addition, interior noise levels were measured at classroom buildings along the MCP project alignment as shown in Table 3.15.P. Interior and exterior noise level measurements were conducted at Val Verde High School, Val Verde Elementary School, Nan Sanders Elementary School, Sierra Vista Elementary School, Lakeside Middle School, and Jesus Center Christian School to determine exterior-to-interior noise level reductions. Classrooms closest to the roadway were evaluated under Activity Category D, which has an interior NAC of 52 dBA L_{eq}. However, Templo Calvario Church was not available for the existing exterior-to-interior noise level reduction measurements. As shown in Table 3.15.P, a standard 20 decibels (dB) exterior-to-interior noise level reduction was assumed for this structure based on the *Highway Traffic Noise Analysis and Abatement Policy and Guidance* (USDOT 1995). As shown in Table 3.15.P, the interior noise levels within the classrooms along the MCP project alignment are currently below the 52 dBA L_{eq} NAC for Activity Category D. These interior and exterior locations are shown on Figure 3.15.1.

3.15.2.3 Existing Noise Levels

The existing worst-hour noise levels were calculated using peak-hour traffic volumes obtained from page 47 of the *Final Noise Study Report* (January 2012). The results of the existing traffic noise modeling are shown in Tables 3.15.Q through 3.15.X. Under the existing traffic noise conditions, a total of 10 of 337, 5 of 358, and 5 of 355 modeled receptors under Alternatives 4 Modified, 5 Modified, and 9 Modified, respectively, currently approach or exceed the 67 dBA L_{eq} NAC under Activity Categories B and C. The existing noise levels are described by their respective alternative because the Build Alternatives do not share the same alignment between I-215 and Antelope Road. The modeled receptors that approach or exceed the NAC are shown in **bold** on Tables 3.15.O through 3.15.X.

Table 3.15.D Summary of Long-Term Monitoring at Location 1

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
3/15/11	10:00 AM	66	-2
3/15/11	11:00 AM	60	-8
3/15/11	12:00 PM	68[1]	0
3/15/11	1:00 PM	58	-10
3/15/11	2:00 PM	56	-12
3/15/11	3:00 PM	56	-12
3/15/11	4:00 PM	57	-11
3/15/11	5:00 PM	58	-10
3/15/11	6:00 PM	59	-9
3/15/11	7:00 PM	59	-9
3/15/11	8:00 PM	58	-10
3/15/11	9:00 PM	58	-10
3/15/11	10:00 PM	59	-9
3/15/11	11:00 PM	55	-13
3/16/11	12:00 AM	52	-16
3/16/11	1:00 AM	52	-16
3/16/11	2:00 AM	50	-18
3/16/11	3:00 AM	50	-18
3/16/11	4:00 AM	53	-15
3/16/11	5:00 AM	53	-15
3/16/11	6:00 AM	54	-14
3/16/11	7:00 AM	56	-12
3/16/11	8:00 AM	55	-13
3/16/11	9:00 AM	55	-13

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.E Summary of Long-Term Monitoring at Location 2

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
3/15/11	9:00 AM	52	-13
3/15/11	10:00 AM	65[1]	0
3/15/11	11:00 AM	52	-13
3/15/11	12:00 PM	60	-5
3/15/11	1:00 PM	53	-12
3/15/11	2:00 PM	51	-14
3/15/11	3:00 PM	54	-11
3/15/11	4:00 PM	55	-10
3/15/11	5:00 PM	56	-9
3/15/11	6:00 PM	59	-6
3/15/11	7:00 PM	54	-11
3/15/11	8:00 PM	51	-14
3/15/11	9:00 PM	53	-12
3/15/11	10:00 PM	52	-13
3/15/11	11:00 PM	49	-16
3/16/11	12:00 AM	46	-19
3/16/11	1:00 AM	46	-19
3/16/11	2:00 AM	46	-19
3/16/11	3:00 AM	49	-16
3/16/11	4:00 AM	55	-10
3/16/11	5:00 AM	54	-11
3/16/11	6:00 AM	56	-9
3/16/11	7:00 AM	56	-9
3/16/11	8:00 AM	53	-12

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.F Summary of Long-Term Monitoring at Location 3

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
4/26/11	1:00 PM	61	-8
4/26/11	2:00 PM	61	-8
4/26/11	3:00 PM	61	-8
4/26/11	4:00 PM	61	-8
4/26/11	5:00 PM	61	-8
4/26/11	6:00 PM	61	-8
4/26/11	7:00 PM	59	-10
4/26/11	8:00 PM	57	-12
4/26/11	9:00 PM	57	-12
4/26/11	10:00 PM	56	-13
4/26/11	11:00 PM	55	-14
4/27/11	12:00 AM	53	-16
4/27/11	1:00 AM	52	-17
4/27/11	2:00 AM	53	-16
4/27/11	3:00 AM	55	-14
4/27/11	4:00 AM	57	-12
4/27/11	5:00 AM	60	-9
4/27/11	6:00 AM	62	-7
4/27/11	7:00 AM	61	-8
4/27/11	8:00 AM	60	-9
4/27/11	9:00 AM	64	-5
4/27/11	10:00 AM	69[1]	0
4/27/11	11:00 AM	60	-9
4/27/11	12:00 PM	59	-10

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.G Summary of Long-Term Monitoring at Location 4

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
4/26/11	12:00 PM	51	-21
4/26/11	1:00 PM	53	-19
4/26/11	2:00 PM	51	-21
4/26/11	3:00 PM	49	-23
4/26/11	4:00 PM	50	-22
4/26/11	5:00 PM	51	-21
4/26/11	6:00 PM	54	-18
4/26/11	7:00 PM	58	-14
4/26/11	8:00 PM	51	-21
4/26/11	9:00 PM	45	-27
4/26/11	10:00 PM	44	-28
4/26/11	11:00 PM	40	-32
4/27/11	12:00 AM	41	-31
4/27/11	1:00 AM	41	-31
4/27/11	2:00 AM	41	-31
4/27/11	3:00 AM	43	-29
4/27/11	4:00 AM	46	-26
4/27/11	5:00 AM	49	-23
4/27/11	6:00 AM	50	-22
4/27/11	7:00 AM	51	-21
4/27/11	8:00 AM	72[1]	0
4/27/11	9:00 AM	49	-23
4/27/11	10:00 AM	46	-26
4/27/11	11:00 AM	46	-26

Source: *Final Noise Study Report* (January 2012).

[1] Represents the peak traffic noise hour.

dB = decibels

dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.H Summary of Long-Term Monitoring at Location 5

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
3/16/11	12:00 PM	64	-1
3/16/11	1:00 PM	63	-2
3/16/11	2:00 PM	62	-3
3/16/11	3:00 PM	65[1]	0
3/16/11	4:00 PM	64	-1
3/16/11	5:00 PM	65[1]	0
3/16/11	6:00 PM	65[1]	0
3/16/11	7:00 PM	63	-2
3/16/11	8:00 PM	63	-2
3/16/11	9:00 PM	62	-3
3/16/11	10:00 PM	61	-4
3/16/11	11:00 PM	56	-9
3/17/11	12:00 AM	53	-12
3/17/11	1:00 AM	51	-14
3/17/11	2:00 AM	54	-11
3/17/11	3:00 AM	55	-10
3/17/11	4:00 AM	60	-5
3/17/11	5:00 AM	60	-5
3/17/11	6:00 AM	61	-4
3/17/11	7:00 AM	63	-2
3/17/11	8:00 AM	62	-3
3/17/11	9:00 AM	62	-3
3/17/11	10:00 AM	62	-3
3/17/11	11:00 AM	62	-3

Source: *Final Noise Study Report* (January 2012).

[1] Represents the peak traffic noise hour.

dB = decibels

dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.I Summary of Long-Term Monitoring at Location 6

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
3/16/11	1:00 PM	48	-7
3/16/11	2:00 PM	46	-9
3/16/11	3:00 PM	55[1]	0
3/16/11	4:00 PM	47	-8
3/16/11	5:00 PM	49	-6
3/16/11	6:00 PM	52	-3
3/16/11	7:00 PM	47	-8
3/16/11	8:00 PM	45	-10
3/16/11	9:00 PM	49	-6
3/16/11	10:00 PM	50	-5
3/16/11	11:00 PM	41	-14
3/17/11	12:00 AM	40	-15
3/17/11	1:00 AM	39	-16
3/17/11	2:00 AM	40	-15
3/17/11	3:00 AM	40	-15
3/17/11	4:00 AM	44	-11
3/17/11	5:00 AM	44	-11
3/17/11	6:00 AM	45	-10
3/17/11	7:00 AM	44	-11
3/17/11	8:00 AM	44	-11
3/17/11	9:00 AM	45	-10
3/17/11	10:00 AM	41	-14
3/17/11	11:00 AM	40	-15
3/17/11	12:00 PM	40	-15

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.J Summary of Long-Term Monitoring at Location 7

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
4/27/11	6:00 PM	56	-14
4/27/11	7:00 PM	70[1]	0
4/27/11	8:00 PM	50	-20
4/27/11	9:00 PM	49	-21
4/27/11	10:00 PM	46	-24
4/27/11	11:00 PM	49	-21
4/28/11	12:00 AM	49	-21
4/28/11	1:00 AM	44	-26
4/28/11	2:00 AM	43	-27
4/28/11	3:00 AM	43	-27
4/28/11	4:00 AM	47	-23
4/28/11	5:00 AM	50	-20
4/28/11	6:00 AM	51	-19
4/28/11	7:00 AM	50	-20
4/28/11	8:00 AM	50	-20
4/28/11	9:00 AM	52	-18
4/28/11	10:00 AM	49	-21
4/28/11	11:00 AM	51	-19
4/28/11	12:00 PM	49	-21
4/28/11	1:00 PM	52	-18
4/28/11	2:00 PM	52	-18
4/28/11	3:00 PM	52	-18
4/28/11	4:00 PM	52	-18
4/28/11	5:00 PM	57	-13

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.K Summary of Long-Term Monitoring at Location 8

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
4/27/11	5:57 PM	43	-4
4/27/11	6:57 PM	44	-3
4/27/11	7:57 PM	43	-4
4/27/11	8:57 PM	40	-7
4/27/11	9:57 PM	38	-9
4/27/11	10:57 PM	34	-13
4/27/11	11:57 PM	34	-13
4/28/11	12:57 AM	33	-14
4/28/11	1:57 AM	34	-13
4/28/11	2:57 AM	38	-9
4/28/11	3:57 AM	41	-6
4/28/11	4:57 AM	45	-2
4/28/11	5:57 AM	44	-3
4/28/11	6:57 AM	47[1]	0
4/28/11	7:57 AM	45	-2
4/28/11	8:57 AM	44	-3
4/28/11	9:57 AM	43	-4
4/28/11	10:57 AM	43	-4
4/28/11	11:57 AM	43	-4
4/28/11	12:57 PM	45	-2
4/28/11	1:57 PM	46	-1
4/28/11	2:57 PM	44	-3
4/28/11	3:57 PM	44	-3
4/28/11	4:57 PM	46	-1

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.L Summary of Long-Term Monitoring at Location 9

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
4/26/11	1:00 PM	53	-5
4/26/11	2:00 PM	53	-5
4/26/11	3:00 PM	54	-4
4/26/11	4:00 PM	58[1]	0
4/26/11	5:00 PM	56	-2
4/26/11	6:00 PM	55	-3
4/26/11	7:00 PM	54	-4
4/26/11	8:00 PM	53	-5
4/26/11	9:00 PM	51	-7
4/26/11	10:00 PM	50	-8
4/26/11	11:00 PM	50	-8
4/27/11	12:00 AM	49	-9
4/27/11	1:00 AM	48	-10
4/27/11	2:00 AM	47	-11
4/27/11	3:00 AM	51	-7
4/27/11	4:00 AM	53	-5
4/27/11	5:00 AM	56	-2
4/27/11	6:00 AM	57	-1
4/27/11	7:00 AM	55	-3
4/27/11	8:00 AM	51	-7
4/27/11	9:00 AM	51	-7
4/27/11	10:00 AM	53	-5
4/27/11	11:00 AM	54	-4
4/27/11	12:00 PM	51	-7

Source: *Final Noise Study Report* (January 2012).

[1] Represents the peak traffic noise hour.

dB = decibels

dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.M Summary of Long-Term Monitoring at Location 10

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
4/27/11	4:00 PM	54	-10
4/27/11	5:00 PM	55	-9
4/27/11	6:00 PM	54	-10
4/27/11	7:00 PM	54	-10
4/27/11	8:00 PM	51	-13
4/27/11	9:00 PM	53	-11
4/27/11	10:00 PM	56	-8
4/27/11	11:00 PM	52	-12
4/27/11	12:00 AM	49	-15
4/28/11	1:00 AM	50	-14
4/28/11	2:00 AM	50	-14
4/28/11	3:00 AM	51	-13
4/28/11	4:00 AM	56	-8
4/28/11	5:00 AM	59	-5
4/28/11	6:00 AM	60	-4
4/28/11	7:00 AM	56	-8
4/28/11	8:00 AM	63	-1
4/28/11	9:00 AM	64[1]	0
4/28/11	10:00 AM	61	-3
4/28/11	11:00 AM	58	-6
4/28/11	12:00 PM	54	-10
4/28/11	1:00 PM	55	-9
4/28/11	2:00 PM	58	-6
4/28/11	3:00 PM	61	-3

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.N Summary of Long-Term Monitoring at Location 11

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
4/26/11	3:00 PM	54	-3
4/26/11	4:00 PM	53	-4
4/26/11	5:00 PM	54	-3
4/26/11	6:00 PM	52	-5
4/26/11	7:00 PM	51	-6
4/26/11	8:00 PM	50	-7
4/26/11	9:00 PM	52	-5
4/26/11	10:00 PM	50	-7
4/26/11	11:00 PM	51	-6
4/27/11	12:00 AM	53	-4
4/27/11	1:00 AM	47	-10
4/27/11	2:00 AM	48	-9
4/27/11	3:00 AM	50	-7
4/27/11	4:00 AM	53	-4
4/27/11	5:00 AM	56	-1
4/27/11	6:00 AM	56[1]	-1
4/27/11	7:00 AM	57	0
4/27/11	8:00 AM	54	-3
4/27/11	9:00 AM	53	-4
4/27/11	10:00 AM	51	-6
4/27/11	11:00 AM	51	-6
4/27/11	12:00 PM	53	-4
4/27/11	1:00 PM	52	-5
4/27/11	2:00 PM	53	-4

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.O Summary of Long-Term Monitoring at Location 12

Day of Measurement	Hour Beginning	Noise Level (dBA L_{eq})	Difference from Loudest Hour (dB)
4/26/11	2:11 PM	54	-10
4/26/11	3:11 PM	59	-5
4/26/11	4:11 PM	60	-4
4/26/11	5:11 PM	59	-5
4/26/11	6:11 PM	58	-6
4/26/11	7:11 PM	58	-6
4/26/11	8:11 PM	49	-15
4/26/11	9:11 PM	47	-17
4/26/11	10:11 PM	52	-12
4/26/11	11:11 PM	50	-14
4/27/11	12:11 AM	47	-17
4/27/11	1:11 AM	44	-20
4/27/11	2:11 AM	45	-19
4/27/11	3:11 AM	49	-15
4/27/11	4:11 AM	51	-13
4/27/11	5:11 AM	64[1]	0
4/27/11	6:11 AM	61	-3
4/27/11	7:11 AM	60	-4
4/27/11	8:11 AM	59	-5
4/27/11	9:11 AM	59	-5
4/27/11	10:11 AM	58	-6
4/27/11	11:11 AM	59	-5
4/27/11	12:11 PM	57	-7
4/27/11	1:11 PM	58	-6

Source: *Final Noise Study Report* (January 2012).
[1] Represents the peak traffic noise hour.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels

Table 3.15.P Interior/Exterior Noise Monitoring Results

Interior/Exterior No.	Exterior (dBA L_{eq})	Interior (dBA L_{eq})	Exterior-to-Interior Noise Level Reduction (dB)	Land Use Description
1	--	--	20.0[1]	Templo Calvario Church
2	64.7	46.9	17.8	Val Verde High School
3	55.1	28.6	26.5	Val Verde Elementary School
4	61.8	41.1	20.7	Nan Sanders Elementary School
5	48.3	33.4	14.9 (20.0)[2]	Sierra Vista Elementary School
6	59.1	38.9	20.2	Lakeside Middle School
7	62.5	38.8	23.7	Jesus Center Christian School

Source: *Final Noise Study Report* (January 2012).
[1] Based on the *Highway Traffic Noise Analysis and Abatement Policy and Guidance* (USDOT, 1995), a standard 20 dB exterior-to-interior noise level reduction was assumed for this structure since the site was not available to conduct interior/exterior measurement.
[2] Based on the *Highway Traffic Noise Analysis and Abatement Policy and Guidance* (USDOT, 1995), a standard 20 dB exterior-to-interior noise level reduction was assumed for this structure because traffic noise levels were too low to properly assess the true building attenuation.
dB = decibels
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels
USDOT = United States Department of Transportation

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Table 3.15.Q Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 4 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-1		Cemetery	3[2]	Van Buren Boulevard	54	55	56	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-2		Cemetery	5[2]	Van Buren Boulevard	57	58	59	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-3		Cemetery	5[2]	Van Buren Boulevard	62	63	64	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-4		Air Force Museum	1[2]	Van Buren Boulevard	60	61	62	1	2	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-5a		Industrial	1	Harvill Avenue	65	66	68	2	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-5b	Alt4-NB-1	Residential	3	W. Oleander Avenue	59	60	63	3	4	B (67)	--	60	3	0	60	3	0	60	3	0	59*	4	0	59	4	0	NP[5]	NP	0	NP	NP	NP
S1-5c	Alt4-NB-1	Residential	1	W. Oleander Avenue	59	59	63	4	4	B (67)	--	60	3	0	59	4	0	59	4	0	58[4]*	5	1	58	5	1	NP	NP	0	NP	NP	NP
S1-5		Commercial	1	Wade Avenue	73	74	--[6]	--	--	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-6		Commercial	1	Wade Avenue	67	68	--	--	--	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-7		Residential (RV)	1	Wade Avenue	**66**[3]	**67**	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-8		Residential (RV)	1	Wade Avenue	**67**	**69**	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-9	Alt4-NB-1	Residential (RV)	2	Wade Avenue	63	64	**75**	11	12	B (67)	A/E[7]	**68**	7	2	**67**	8	2	65	10	2	64*	11	2	64	11	2	NP	NP	0	NP	NP	NP
S1-10		Residential (RV)	1	Wade Avenue	**66**	**67**	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-11	Alt4-NB-1	Residential (RV)	2	Wade Avenue	62	63	**73**	10	11	B (67)	A/E	**66**	7	2	65	8	2	63	10	2	62*	11	2	61	12	2	NP	NP	0	NP	NP	NP
S1-12	Alt4-NB-1	Residential (RV)	2	Wade Avenue	64	65	**73**	8	9	B (67)	A/E	**67**	6	2	65	8	2	64	9	2	63*	10	2	62	11	2	NP	NP	0	NP	NP	NP
S1-12a	Alt4-NB-1	Residential (RV)	2	Wade Avenue	63	63	**70**	7	7	B (67)	A/E	65	5	2	64	6	2	63	7	2	61*	9	2	61	9	2	NP	NP	0	NP	NP	NP
S1-12b	Alt4-NB-1	Residential (RV)	2	Wade Avenue	63	63	**70**	7	7	B (67)	A/E	65	5	2	64	6	2	63	7	2	61*	9	2	61	9	2	NP	NP	0	NP	NP	NP
S1-12c	Alt4-NB-1	Residential	1	California Street	58	59	63	4	5	B (67)	--	59	4	0	59	4	0	58	5	1	57*	6	1	57	6	1	NP	NP	0	NP	NP	NP
S1-13		Commercial	1	Wade Avenue	70	71	--	--	--	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-14	Alt4-NB-1	Residential	1	Wade Avenue	63	63	**74**	11	11	B (67)	A/E	**68**	6	1	**67**	7	1	65	9	1	64	10	1	63	11	1	NP	NP	0	NP	NP	NP
S1-15	Alt4-NB-1	Residential	1	W Nance Street	57	58	64	6	7	B (67)	--	59	5	1	59	5	1	58	6	1	57*	7	1	56	8	1	NP	NP	0	NP	NP	NP
S1-16		Residential	2	Wade Avenue	**68**	**69**	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-17	Alt4-NB-1	Residential	2	Wade Avenue	62	63	**73**	10	11	B (67)	A/E	**67**	6	2	**66**	7	2	64	9	2	63*	10	2	62	11	2	NP	NP	0	NP	NP	NP
S1-18		Outdoor Eating Area	1	Wade Avenue	**68**	**69**	--	--	--	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-19	Alt4-NB-1	Residential	2	Wade Avenue	60	61	**69**	8	9	B (67)	A/E	64	5	2	63	6	2	62	7	2	61*	8	2	60	9	2	NP	NP	0	NP	NP	NP
S1-20	Alt4-NB-1	Residential	3	Wade Avenue	61	62	**69**	7	8	B (67)	A/E	64	5	3	63	6	3	62	7	3	61*	8	3	60	9	3	NP	NP	0	NP	NP	NP
S1-21	Alt4-NB-1	Residential	1	Wade Avenue	62	63	**69**	6	7	B (67)	A/E	64	5	1	63	6	1	62	7	1	61*	8	1	60	9	1	NP	NP	0	NP	NP	NP
S1-22		Residential	1	Patterson Avenue	63	64	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-23		Commercial	1	Cajalco Road	71	74	75	1	4	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-24		Outdoor Eating Area	1	Cajalco Road	64	68	68	0	4	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-25		Outdoor Eating Area	1	Cajalco Road	62	65	65	0	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-26		Outdoor Eating Area	1	Cajalco Road	64	66	67	1	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-27a		Agriculture	1	Cajalco Road	62	65	66	1	4	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-27b		Industrial	1	Cajalco Road	70	72	70	-2	0	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-27		School	2[2]	Nevada Road	58	58	59	1	1	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-28		School	1[2]	Nevada Road	58	59	60	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-29		Office	1	Morgan Street	66	66	70	4	4	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-30		Office	1	Webster Avenue	65	66	68	2	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-31		Commercial	1	Rider Street	63	64	67	3	4	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-32		Residential	2	Susan Lane	57	58	58	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-32a		Industrial	1	Rider Street	74	75	77	2	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-33		Residential	1	Susan Lane	58	58	58	0	0	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-34		Residential	1	Susan Lane	55	57	58	1	3	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-35		Residential	1	Hagan Lane	56	57	58	1	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-36		Residential	2	Hagan Lane	55	56	57	1	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-37		Residential	1	W. Placentia Avenue	56	57	64	7	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-38		Residential	1	Indian Avenue	53	57	56	-1	3	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-39		Residential	1	Indian Avenue	54	57	59	2	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-40		Residential	2	Indian Avenue	55	58	57	-1	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-41		School	6[2]	Indian Avenue	58	59	60	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-42		School	5[2]	Indian Avenue	56	58	59	1	3	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-43	Alt4-NB-2	Private Recreational	4[2]	Orange Avenue	59	60	**66**	6	7	C (67)	A/E	62	4	0	62	4	0	60*	6	4	60	6	4	59	7	4	58	8	4	NP	NP	NP
S1-44		Storage	1	Daytona Cove	62	63	64	1	2	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-45		Commercial	1	W. Nuevo Road	64	65	66	1	2	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-46a		Residential	6	North A Street	54	55	56	1	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-46	Alt4-NB-3	School	1[2]	North A Street	65	**67**	**67**	0	2	C (67)	A/E	61*	6	1	58	9	1	57	10	1	55	12	1	54	13	1	53	14	1	NP	NP	NP
S1-47		Office	1	North A Street	61	62	62	0	1	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-48	Alt4-NB-4	Residential	2	Coliseum Street	64	**66**	**66**	0	2	B (67)	A/E	**66**	0	0	**66**	0	0	**66**	0	0	65	1	0	64	2	0	63	3	0	NP	NP	NP
S1-49	Alt4-NB-4	Residential	2	Coliseum Street	63	64	65	1	2	B (67)	--	65	0	0	64	1	0	64	1	0	62	3	0	62	3	0	61	4	0	NP	NP	NP
S1-50	Alt4-NB-4	Residential	1	Coliseum Street	64	65	**66**	1	2	B (67)	A/E	**66**	0	0	**66**	0	0	**66**	0	0	65	1	0	64	2	0	63	3	0	NP	NP	NP

Table 3.15.Q Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 4 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-51	Alt4-NB-4	Residential	2	Fenway Lane	63	65	**66**	1	3	B (67)	A/E	**66**	0	0	**66**	0	0	**66**	0	0	65	1	0	64	2	0	63	3	0	NP	NP	NP
S1-52	Alt4-NB-4	Residential	2	Fenway Lane	63	65	65	0	2	B (67)	--	65	0	0	65	0	0	65	0	0	65	0	0	64	1	0	63	2	0	NP	NP	NP
S1-53	Alt4-NB-4	Residential	2	Coliseum Street	57	59	59	0	2	B (67)	--	59	0	0	58	1	0	58	1	0	58	1	0	57	2	0	57	2	0	NP	NP	NP
S1-54	Alt4-NB-4	Residential	2	Coliseum Street	61	63	63	0	2	B (67)	--	63	0	0	63	0	0	63	0	0	62	1	0	61	2	0	59	4	0	NP	NP	NP
S1-55	Alt4-NB-4	Residential	2	Fenway Lane	59	60	60	0	1	B (67)	--	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	NP	NP	NP
S1-56	Alt4-NB-4	Residential	2	Fenway Lane	55	56	56	0	1	B (67)	--	56	0	0	56	0	0	56	0	0	56	0	0	56	0	0	55	1	0	NP	NP	NP
S1-57	Alt4-NB-4	Residential	4	Fenway Lane	55	56	56	0	1	B (67)	--	56	0	0	56	0	0	56	0	0	56	0	0	55	1	0	55	1	0	NP	NP	NP
S1-58	Alt4-NB-4	Residential	4	Fenway Lane	55	56	56	0	1	B (67)	--	56	0	0	56	0	0	56	0	0	56	0	0	55	1	0	55	1	0	NP	NP	NP
S1-59		Residential	2	Bowen Road	60	61	61	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-60		Residential	1	N. Webster Avenue	57	58	61	3	4	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-61		Residential	1	N. Webster Avenue	59	60	62	2	3	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-62		Residential	1	Brennan Avenue	55	56	62	6	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-63		Residential	1	Brennan Avenue	54	56	61	5	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-63a		Residential	3	Brennan Avenue	50	51	58	7	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-63b		Commercial	1	Brennan Avenue	59	60	68	8	9	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-64		Outdoor Eating Area	1	Ramona Expressway	**66**	**68**	**69**	1	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-65		Residential	1	Barrett Avenue	53	55	64	9	11	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-66		Commercial	1	Ramona Expressway	67	69	68	-1	1	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-66a		Commercial	1	Ramona Expressway	67	68	70	2	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-67	Alt4-NB-8	Camping Area	1	Ramona Expressway	**72**	**74**	**68**	-6	-4	B (67)	A/E	62	6	1	61	7	1	60	8	1	58*	10	1	57	11	1	NP	NP	0	NP	NP	NP
S1-68	Alt4-NB-8	Camping Area	1	Ramona Expressway	**70**	**71**	**67**	-4	-3	B (67)	A/E	62	5	1	61	6	1	60	7	1	58*	9	1	57	10	1	NP	NP	0	NP	NP	NP
S1-69	Alt4-NB-8	Camping Area	1	Ramona Expressway	**66**	**68**	**67**	-1	1	B (67)	A/E	62	5	1	61	6	1	60	7	1	58*	9	1	57	10	1	NP	NP	0	NP	NP	NP
S1-70	Alt4-NB-8	Camping Area	1	Ramona Expressway	**67**	**69**	**68**	-1	1	B (67)	A/E	62	6	1	61	7	1	60	8	1	58*	10	1	57	11	1	NP	NP	0	NP	NP	NP
S1-71	Alt4-NB-8	Camping Area	1	Ramona Expressway	64	65	**67**	2	3	B (67)	A/E	62	5	1	61	6	1	60	7	1	58*	9	1	57	10	1	NP	NP	0	NP	NP	NP
S1-72	Alt4-NB-8	Camping Area	1	Ramona Expressway	62	63	**67**	4	5	B (67)	A/E	62	5	1	61	6	1	60	7	1	58*	9	1	57	10	1	NP	NP	0	NP	NP	NP
S1-72a	Alt4-NB-8	Camping Area	3	Ramona Expressway	57	58	65	7	8	B (67)	--	61	4	0	60	5	3	59	6	3	57*	8	3	56	9	3	NP	NP	0	NP	NP	NP
S1-72b	Alt4-NB-8	Camping Area	3	Ramona Expressway	54	56	64	8	10	B (67)	--	61	3	0	60	4	0	59	5	3	57*	7	3	56	8	3	NP	NP	0	NP	NP	NP
S1-72c	Alt4-NB-8	Camping Area	3	Ramona Expressway	52	54	64	10	12	B (67)	SI	60	4	0	60	4	0	59	5	3	57*	7	3	56	8	3	NP	NP	0	NP	NP	NP
S1-72d	Alt4-NB-8	Camping Area	6	Ramona Expressway	50	52	63	11	13	B (67)	SI	60	3	0	59	4	0	59	4	0	56*	7	6	55	8	6	NP	NP	0	NP	NP	NP
S1-73a	Alt4-NB-6/7/12	Residential	12	Akina Avenue	61	62	65	3	4	B (67)	--	60	5	12	59	6	12	58	7	12	57*	8	12	57	8	12	NP	NP	0	NP	NP	NP
S1-73	Alt4-NB-6/7/12	Residential	2	Akina Avenue	54	55	**66**	11	12	B (67)	SI	60	6	2	60	6	2	59	7	2	58*	8	2	58	8	2	NP	NP	0	NP	NP	NP
S1-74	Alt4-NB-6/7/12	Residential	4	Blackberry Drive	52	54	**66**	12	14	B (67)	SI	60	6	4	59	7	4	59	7	4	57*	9	4	57	9	4	NP	NP	0	NP	NP	NP
S1-75	Alt4-NB-6/7/12	Residential	2	Veronica Avenue	50	52	**67**	15	17	B (67)	SI	61	6	2	61	6	2	60	7	2	59*	8	2	59	8	2	NP	NP	0	NP	NP	NP
S1-76	Alt4-NB-6/7/12	Residential	3	Veronica Avenue	49	51	**68**	17	19	B (67)	SI	62	6	3	61	7	3	60	8	3	59*	9	3	59	9	3	NP	NP	0	NP	NP	NP
S1-77	Alt4-NB-6/7/12	Residential	3	Veronica Avenue	48	50	**68**	18	20	B (67)	SI	62	6	3	61	7	3	61	7	3	60*	8	3	59	9	3	NP	NP	0	NP	NP	NP
S1-78	Alt4-NB-6/7/12	Residential	3	Veronica Avenue	47	49	**68**	19	21	B (67)	SI	62	6	3	62	6	3	61	7	3	60*	8	3	59	9	3	NP	NP	0	NP	NP	NP
S1-79	Alt4-NB-6/7/12	Residential	2	Veronica Avenue	47	48	**68**	20	21	B (67)	SI	62	6	2	62	6	2	61	7	2	60*	8	2	59	9	2	NP	NP	0	NP	NP	NP
S1-80	Alt4-NB-6/7/12	Residential	2	Veronica Avenue	46	48	**68**	20	22	B (67)	SI	62	6	2	62	6	2	61	7	2	60*	8	2	59	9	2	NP	NP	0	NP	NP	NP
S1-81	Alt4-NB-6/7/12	Residential	1	Veronica Avenue	46	48	**68**	20	22	B (67)	SI	62	6	1	61	7	1	61	7	1	60*	8	1	59	9	1	NP	NP	0	NP	NP	NP
S1-82a	Alt4-NB-6/7/12	Residential	10	Blackberry Drive	53	54	58	4	5	B (67)	--	54	4	0	54	4	0	53	5	10	52*	6	10	52	6	10	NP	NP	0	NP	NP	NP
S1-82	Alt4-NB-6/7/12	Residential	8	Botan Street	50	52	65	13	15	B (67)	SI	59	6	8	58	7	8	57	8	8	56*	9	8	56	9	8	NP	NP	0	NP	NP	NP
S1-83	Alt4-NB-6/7/12	Residential	12	Veronica Avenue	48	50	63	13	15	B (67)	SI	57	6	12	56	7	12	56	7	12	55*	8	12	54	9	12	NP	NP	0	NP	NP	NP
S1-84	Alt4-NB-6/7/12	Residential	13	Veronica Avenue	46	48	60	12	14	B (67)	SI	56	4	0	56	4	0	55	5	13	54*	6	13	54	6	13	NP	NP	0	NP	NP	NP
S1-85	Alt4-NB-6/7/12	Residential	4	Gloriosa Avenue	46	48	**67**	19	21	B (67)	SI	61	6	4	60	7	4	59	8	4	58*	9	4	57	10	4	NP	NP	0	NP	NP	NP
S1-86	Alt4-NB-6/7/12	Park	6[2]	E. Morgan Street	44	46	**67**	21	23	C (67)	SI	61	6	6	60	7	6	59	8	6	57*	10	6	57	10	6	NP	NP	0	NP	NP	NP
S1-87a	Alt4-NB-6/7/12	Residential	4	Roswell Circle	47	52	59	7	12	B (67)	SI	55	4	0	55	4	0	54	5	4	53*	6	4	52	7	4	NP	NP	0	NP	NP	NP
S1-87	Alt4-NB-6/7/12	Residential	3	E. Rider Street	51	57	60	3	9	B (67)	--	56	4	0	55	5	3	55	5	3	54*	6	3	53	7	3	NP	NP	0	NP	NP	NP
S1-88a	Alt4-NB-9/10/15	Residential	1	Wilson Avenue	42	47	58	11	16	B (67)	SI	56	2	0	55	3	0	54	4	0	53*	5	1	52	6	1	NP	NP	0	NP	NP	NP
S1-88b	Alt4-NB-9/10/15	Residential	1	Wilson Avenue	41	45	54	9	13	B (67)	SI	53	1	0	52	2	0	51	3	0	50*	4	0	50	4	0	NP	NP	0	NP	NP	NP
S1-88		Commercial	1	Wilson Avenue	41	46	65	19	24	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-89	Alt4-NB-6/7/12	Residential	4	Parula Street	42	46	64	18	22	B (67)	SI	62	2	0	61	3	0	60	4	0	58*	6	4	57	7	4	NP	NP	0	NP	NP	NP
S1-90	Alt4-NB-6/7/12	Residential	4	Clapper Street	41	45	**69**	24	28	B (67)	SI	64	5	4	63	6	4	61	8	4	60*	9	4	58	11	4	NP	NP	0	NP	NP	NP
S1-91	Alt4-NB-6/7/12	Residential	7	Clapper Street	39	43	**69**	26	30	B (67)	A/E	65	4	0	63	6	7	62	7	7	60*	9	7	59	10	7	NP	NP	0	NP	NP	NP
S1-92	Alt4-NB-6/7/12	Residential	4	Clapper Street	40	43	**70**	27	30	B (67)	A/E	65	5	4	64	6	4	63	7	4	61*	9	4	60	10	4	NP	NP	0	NP	NP	NP
S1-93	Alt4-NB-6/7/12	Residential	4	Clapper Street	39	43	**71**	28	32	B (67)	A/E	65	6	4	64	7	4	63	8	4	61*	10	4	60	11	4	NP	NP	0	NP	NP	NP
S1-94	Alt4-NB-6/7/12	Residential	2	Clapper Street	39	42	**71**	29	32	B (67)	A/E	66	5	2	65	6	2	63	8	2	61*	10	2	61	10	2	NP	NP	0	NP	NP	NP
S1-95	Alt4-NB-6/7/12	Residential	2	Clapper Street	39	43	**71**	28	32	B (67)	A/E	66	5	2	65	6	2	64	7	2	62*	9	2	61	10	2	NP	NP	0	NP	NP	NP
S1-96a	Alt4-NB-6/7/12	Residential	4	Clapper Street	42	46	58	12	16	B (67)	SI	56	2	0	55	3	0	54	4	0	53*	5	4	52	6	4	NP	NP	0	NP	NP	NP
S1-96	Alt4-NB-6/7/12	Residential	10	Clapper Street	42	46	58	12	16	B (67)	SI	57	1	0	56	2	0	55	3	0	54*	4	0	53	5	10	NP	NP	0	NP	NP	NP
S1-97	Alt4-NB-6/7/12	Residential	11	Clapper Street	40	44	59	15	19	B (67)	SI	58	1	0	56	3	0	55	4	0	54*	5	11	53	6	11	NP	NP	0	NP	NP	NP

Table 3.15.Q Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 4 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-98	Alt4-NB-6/7/12	Residential	6	Towhee Lane	41	45	61	16	20	B (67)	SI	58	3	0	56	5	6	56	5	6	55*	6	6	54	7	6	NP	NP	0	NP	NP	NP
S1-99	Alt4-NB-6/7/12	Residential	5	Whimbrel Way	40	44	63	19	23	B (67)	SI	59	4	0	59	4	0	59	4	0	57*	6	5	56	7	5	NP	NP	0	NP	NP	NP
S1-100	Alt4-NB-6/7/12	Residential	5	Sparrow Way	39	43	65	22	26	B (67)	SI	61	4	0	61	4	0	60	5	5	58*	7	5	58	7	5	NP	NP	0	NP	NP	NP
S1-101	Alt4-NB-6/7/12	Residential	6	Whimbrel Way	40	45	62	17	22	B (67)	SI	59	3	0	57	5	6	57	5	6	55*	7	6	54	8	6	NP	NP	0	NP	NP	NP
S1-102	Alt4-NB-6/7/12	Residential	6	Sparrow Way	39	43	64	21	25	B (67)	SI	60	4	0	59	5	6	58	6	6	56*	8	6	55	9	6	NP	NP	0	NP	NP	NP
S1-103	Alt4-NB-6/7/12	Residential	6	Sparrow Way	40	44	61	17	21	B (67)	SI	60	1	0	58	3	0	58	3	0	56*	5	6	55	6	6	NP	NP	0	NP	NP	NP
S1-104	Alt4-NB-6/7/12	Residential	5	Sparrow Way	40	45	60	15	20	B (67)	SI	59	1	0	58	2	0	57	3	0	56*	4	0	54	6	5	NP	NP	0	NP	NP	NP
S1-105	Alt4-NB-6/7/12	Residential	2	Sparrow Way	42	47	60	13	18	B (67)	SI	59	1	0	57	3	0	57	3	0	56*	4	0	55	5	2	NP	NP	0	NP	NP	NP
S1-106	Alt4-NB-6/7/12	Residential	2	Tern Place	42	47	61	14	19	B (67)	SI	59	2	0	57	4	0	57	4	0	56*	5	2	55	6	2	NP	NP	0	NP	NP	NP
S1-107	Alt4-NB-6/7/12	Residential	4	Tern Place	43	48	60	12	17	B (67)	SI	59	1	0	58	2	0	57	3	0	57*	3	0	56	4	0	NP	NP	0	NP	NP	NP
S1-108	Alt4-NB-6/7/12	Residential	4	Sandgrouse Lane	43	48	59	11	16	B (67)	SI	58	1	0	57	2	0	56	3	0	55*	4	0	55	4	0	NP	NP	0	NP	NP	NP
S1-109	Alt4-NB-6/7/12	Residential	4	Barn Owl Drive	48	52	58	6	10	B (67)	--	57	1	0	57	1	0	57	1	0	56*	2	0	56	2	0	NP	NP	0	NP	NP	NP
S1-109a	Alt4-NB-6/7/12	Residential	10	Sandgrouse Lane	47	51	61	10	14	B (67)	SI	60	1	0	59	2	0	58	3	0	57*	4	0	56	5	10	NP	NP	0	NP	NP	NP
S1-110	Alt4-NB-6/7/12	Residential	4	Sandgrouse Lane	45	50	59	9	14	B (67)	SI	58	1	0	58	1	0	57	2	0	56*	3	0	56	3	0	NP	NP	0	NP	NP	NP
S1-111	Alt4-NB-6/7/12	Residential	3	Egret Circle	46	51	59	8	13	B (67)	SI	58	1	0	58	1	0	57	2	0	57*	2	0	56	3	0	NP	NP	0	NP	NP	NP
S1-112	Alt4-NB-6/7/12	Residential	4	Egret Circle	47	52	59	7	12	B (67)	SI	58	1	0	58	1	0	57	2	0	57*	2	0	56	3	0	NP	NP	0	NP	NP	NP
S1-113	Alt4-NB-6/7/12	Residential	3	Barn Owl Drive	52	57	60	3	8	B (67)	--	60	0	0	60	0	0	60	0	0	60*	0	0	60	0	0	NP	NP	0	NP	NP	NP
S1-114	Alt4-NB-6/7/12	Residential	3	Barn Owl Drive	52	57	60	3	8	B (67)	--	60	0	0	60	0	0	60	0	0	60*	0	0	60	0	0	NP	NP	0	NP	NP	NP
S1-115	Alt4-NB-6/7/12	Residential	3	Barn Owl Drive	53	57	61	4	8	B (67)	--	60	1	0	60	1	0	60	1	0	60*	1	0	60	1	0	NP	NP	0	NP	NP	NP
S1-116	Alt4-NB-6/7/12	Residential	1	Barn Owl Drive	54	57	61	4	7	B (67)	--	61	0	0	61	0	0	61	0	0	61*	0	0	61	0	0	NP	NP	0	NP	NP	NP
S1-117	Alt4-NB-6/7/12	Residential	3	Barn Owl Drive	53	57	63	6	10	B (67)	--	61	2	0	61	2	0	61	2	0	61*	2	0	60	3	0	NP	NP	0	NP	NP	NP
S1-118	Alt4-NB-9/10/15	Residential	2	Placentia Avenue	40	45	60	15	20	B (67)	SI	56	4	0	55	5	2	54	6	2	53	7	2	52*	8	2	NP	NP	0	NP	NP	NP
S1-118a	Alt4-NB-9/10/15	Residential	2	Murrieta Road	38	41	56	15	18	B (67)	SI	53	3	0	52	4	0	52	4	0	50	6	2	50*	6	2	NP	NP	0	NP	NP	NP
S1-118b	Alt4-NB-9/10/15	Residential	2	Murrieta Road	38	42	59	17	21	B (67)	SI	56	3	0	55	4	0	55	4	0	53	6	2	52*	7	2	NP	NP	0	NP	NP	NP
S1-119	Alt4-NB-9/10/15	Residential	2	Murrieta Road	38	42	62	20	24	B (67)	SI	57	5	2	57	5	2	56	6	2	54	8	2	53*	9	2	NP	NP	0	NP	NP	NP
S1-120	Alt4-NB-9/10/15	Residential	1	Water Avenue	42	46	60	14	18	B (67)	SI	58	2	0	57	3	0	57	3	0	56	4	0	55*	5	1	NP	NP	0	NP	NP	NP
S1-121	Alt4-NB-9/10/15	Residential	1	Water Avenue	45	48	61	13	16	B (67)	SI	59	2	0	59	2	0	58	3	0	57	4	0	57*	4	0	NP	NP	0	NP	NP	NP
S1-122	Alt4-NB-9/10/15	Residential	1	Water Avenue	48	51	63	12	15	B (67)	SI	61	2	0	61	2	0	61	2	0	60	3	0	60*	3	0	NP	NP	0	NP	NP	NP
S1-126		Park	2[2]	Evans Road	57	61	61	0	4	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-127	Alt4-NB-7/11/12	Residential	1	Old Evans Road	56	60	64	4	8	B (67)	--	64	0	0	63	1	0	63	1	0	62	2	0	62*	2	0	NP	NP	0	NP	NP	NP
S1-128	Alt4-NB-7/11/12	Residential	1	Old Evans Road	55	60	63	3	8	B (67)	--	63	0	0	62	1	0	61	2	0	60	3	0	59*	4	0	NP	NP	0	NP	NP	NP
S1-129	Alt4-NB-7/11/12	Residential	1	Old Evans Road	49	53	61	8	12	B (67)	SI	58	3	0	58	3	0	57	4	0	56	5	1	56*	5	1	NP	NP	0	NP	NP	NP
S1-130	Alt4-NB-7/11/12	Residential	1	Old Evans Road	46	51	62	11	16	B (67)	SI	59	3	0	58	4	0	57	5	1	56	6	1	55*	7	1	NP	NP	0	NP	NP	NP
S1-131	Alt4-NB-7/11/12	Residential	1	Old Evans Road	58	62	**67**	5	9	B (67)	A/E	61	6	1	60	7	1	59	8	1	58	9	1	57*	10	1	NP	NP	0	NP	NP	NP
S1-132	Alt4-NB-7/11/12	Residential	1	Old Evans Road	51	56	64	8	13	B (67)	SI	61	3	0	60	4	0	59	5	1	58	6	1	57*	7	1	NP	NP	0	NP	NP	NP
S1-133	Alt4-NB-7/11/12	Residential	1	Evans Road	49	55	65	10	16	B (67)	SI	63	2	0	62	3	0	60	5	1	59	6	1	58*	7	1	NP	NP	0	NP	NP	NP
S1-134	Alt4-NB-7/11/12	Residential	1	Evans Road	47	52	65	13	18	B (67)	SI	62	3	0	61	4	0	60	5	1	59	6	1	58*	7	1	NP	NP	0	NP	NP	NP
S1-136	Alt4-NB-7/11/12	Residential	1	El Nido Avenue	41	51	63	12	22	B (67)	SI	59	4	0	58	5	1	57	6	1	56	7	1	55*	8	1	NP	NP	0	NP	NP	NP
S1-137	Alt4-NB-7/11/12	Residential	1	Eureka Avenue	36	40	64	24	28	B (67)	SI	60	4	0	58	6	1	57	7	1	56	8	1	55*	9	1	NP	NP	0	NP	NP	NP
S1-138	Alt4-NB-7/11/12	Residential	1	Eureka Avenue	39	45	63	18	24	B (67)	SI	60	3	0	59	4	0	58	5	1	56	7	1	56*	7	1	NP	NP	0	**NP**	**NP**	**NP**
S1-139	Alt4-NB-13	Residential	2	Future McCanna Hills	40	40	55	15	15	B (67)	SI	55	0	0	55	0	0	55	0	0	55*	0	0	55	0	0	54	1	0	54	1	0
S1-140	Alt4-NB-13	Residential	2	Future McCanna Hills	40	40	58	18	18	B (67)	SI	57	1	0	57	1	0	56	2	0	56*	2	0	56	2	0	55	3	0	55	3	0
S1-141	Alt4-NB-13	Residential	2	Future McCanna Hills	40	40	63	23	23	B (67)	SI	60	3	0	59	4	0	59	4	0	58*	5	2	57	6	2	57	6	2	56	7	2
S1-142	Alt4-NB-13	Residential	2	Future McCanna Hills	40	40	55	15	15	B (67)	SI	55	0	0	55	0	0	55	0	0	55*	0	0	55	0	0	55	0	0	55	0	0
S1-143	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	53	13	13	B (67)	SI	53	0	0	53	0	0	53	0	0	53*	0	0	53	0	0	53	0	0	53	0	0
S1-144	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	51	11	11	B (67)	--	51	0	0	51	0	0	51	0	0	51*	0	0	51	0	0	51	0	0	51	0	0
S1-145	Alt4-NB-13	Residential	2	Future McCanna Hills	40	40	54	14	14	B (67)	SI	53	1	0	53	1	0	53	1	0	53*	1	0	52	2	0	52	2	0	52	2	0
S1-146	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	56	16	16	B (67)	SI	55	1	0	54	2	0	54	2	0	53*	3	0	53	3	0	53	3	0	52	4	0
S1-147	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	57	17	17	B (67)	SI	54	3	0	54	3	0	53	4	0	53*	4	0	52	5	3	52	5	3	52	5	3
S1-148	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	51	11	11	B (67)	--	51	0	0	51	0	0	51	0	0	51*	0	0	51	0	0	51	0	0	51	0	0
S1-149	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	59	19	19	B (67)	SI	57	2	0	57	2	0	56	3	0	56*	3	0	55	4	0	55	4	0	55	4	0
S1-150	Alt4-NB-13	Residential	2	Future McCanna Hills	40	40	56	16	16	B (67)	SI	55	1	0	54	2	0	54	2	0	54*	2	0	53	3	0	53	3	0	53	3	0
S1-151	Alt4-NB-13	Residential	2	Future McCanna Hills	40	40	55	15	15	B (67)	SI	54	1	0	53	2	0	53	2	0	53*	2	0	52	3	0	52	3	0	52	3	0
S1-152	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	53	13	13	B (67)	SI	52	1	0	52	1	0	52	1	0	51*	2	0	51	2	0	51	2	0	51	2	0
S1-153	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	54	14	14	B (67)	SI	53	1	0	52	2	0	52	2	0	52*	2	0	51	3	0	51	3	0	51	3	0
S1-154	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	52	12	12	B (67)	SI	52	0	0	52	0	0	52	0	0	52*	0	0	52	0	0	52	0	0	52	0	0
S1-155	Alt4-NB-13	Residential	2	Future McCanna Hills	40	40	52	12	12	B (67)	SI	52	0	0	52	0	0	52	0	0	52*	0	0	52	0	0	52	0	0	51	1	0
S1-156	Alt4-NB-13	Residential	3	Future McCanna Hills	40	40	51	11	11	B (67)	--	51	0	0	51	0	0	51	0	0	50*	1	0	50	1	0	50	1	0	50	1	0
S1-157		Residential	3	Future McCanna Hills	40	40	50	10	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-158		School	1[2]	Sherman Road	41	46	47	1	6	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-159		School	6[2]	Sherman Road	42	46	48	2	6	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP

Table 3.15.Q Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 4 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-160		School	1	Walnut Street	46	51	50	-1	4	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-160a		School	7	Walnut Street	51	56	55	-1	4	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-161		School	6[2]	Walnut Street	55	60	60	0	5	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-162		Residential	3	Cayenne Way	50	55	54	-1	4	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-163		Residential	3	Cayenne Way	48	52	52	0	4	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-164		Residential	3	Cayenne Way	47	52	51	-1	4	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-164a		Residential	7	Cayenne Way	44	49	49	0	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-168	Alt4-NB-10/14/15	Residential	2	Water Avenue	48	51	62	11	14	B (67)	SI	60	2	0	60	2	0	60	2	0	59	3	0	58*	4	0	NP	NP	0	NP	NP	NP
S1-170	Alt4-NB-10/14/15	Residential	1	Toliver Road	43	48	63	15	20	B (67)	SI	61	2	0	60	3	0	59	4	0	56	7	1	55*	8	1	NP	NP	0	NP	NP	NP
S1-171	Alt4-NB-10/14/15	Residential	1	Water Avenue	43	47	61	14	18	B (67)	SI	59	2	0	59	2	0	58	3	0	56	5	1	56*	5	1	NP	NP	0	NP	NP	NP
S1-172	Alt4-NB-10/14/15	Residential	1	Water Avenue	41	46	61	15	20	B (67)	SI	59	2	0	58	3	0	58	3	0	56	5	1	55*	6	1	NP	NP	0	NP	NP	NP
S1-173	Alt4-NB-10/14/15	Residential	1	Toliver Road	42	47	62	15	20	B (67)	SI	60	2	0	60	2	0	58	4	0	57	5	1	56*	6	1	NP	NP	0	NP	NP	NP
S1-174	Alt4-NB-10/14/15	Residential	1	El Nido Avenue	41	48	63	15	22	B (67)	SI	60	3	0	59	4	0	56	7	1	55	8	1	54*	9	1	NP	NP	0	NP	NP	NP
S1-175	Alt4-NB-10/14/15	Residential	1	El Nido Avenue	40	46	62	16	22	B (67)	SI	60	2	0	59	3	0	58	4	0	56	6	1	56*	6	1	NP	NP	0	NP	NP	NP
S1-176	Alt4-NB-10/14/15	Residential	1	El Nido Avenue	40	49	64	15	24	B (67)	SI	60	4	0	59	5	1	57	7	1	56	8	1	55*	9	1	NP	NP	0	NP	NP	NP
S1-177	Alt4-NB-10/14/15	Residential	2	El Nido Avenue	39	48	63	15	24	B (67)	SI	60	3	0	59	4	0	57	6	2	55	8	2	55*	8	2	NP	NP	0	NP	NP	NP
S1-178	Alt4-NB-10/14/15	Residential	1	Eureka Avenue	39	48	64	16	25	B (67)	SI	61	3	0	60	4	0	58	6	1	57	7	1	56*	8	1	NP	NP	0	NP	NP	NP
S1-179	Alt4-NB-10/14/15	Residential	2	Eureka Avenue	39	45	62	17	23	B (67)	SI	59	3	0	59	3	0	58	4	0	56	6	2	55*	7	2	NP	NP	0	NP	NP	NP
S1-181	Alt4-NB-10/14/15	Residential	1	Eureka Avenue	36	43	64	21	28	B (67)	SI	61	3	0	60	4	0	58	6	1	57	7	1	56*	8	1	NP	NP	0	NP	NP	NP
S1-182	Alt4-NB-10/14/15	Residential	1	Placentia Avenue	38	47	**68**	21	30	B (67)	A/E	62	6	1	61	7	1	60	8	1	58	10	1	57*	11	1	NP	NP	0	NP	NP	NP
S1-183	Alt4-NB-10/14/15	Residential	1	Placentia Avenue	38	45	**66**	21	28	B (67)	SI	62	4	0	61	5	1	60	6	1	58	8	1	57*	9	1	NP	NP	0	NP	NP	NP
S1-184	Alt4-NB-10/14/15	Residential	1	Eureka Avenue	39	46	**66**	20	27	B (67)	SI	63	3	0	62	4	0	61	5	1	60	6	1	58*	8	1	NP	NP	0	NP	NP	NP
S1-185	Alt4-NB-16	Residential	3	Future McCanna Hills	37	37	65	28	28	B (67)	SI	62	3	0	61	4	0	60	5	3	60*	5	3	59	6	3	58	7	3	NP	NP	NP
S1-186	Alt4-NB-16	Residential	2	Future McCanna Hills	37	37	60	23	23	B (67)	SI	60	0	0	59	1	0	59	1	0	59	1	0	58	2	0	58	2	0	NP	NP	NP
S1-187	Alt4-NB-16	Residential	3	Future McCanna Hills	37	37	59	22	22	B (67)	SI	59	0	0	59	0	0	58	1	0	58	1	0	57	2	0	57	2	0	NP	NP	NP
S1-188	Alt4-NB-16	Residential	3	Future McCanna Hills	37	37	56	19	19	B (67)	SI	56	0	0	56	0	0	56	0	0	56	0	0	56	0	0	55	1	0	NP	NP	NP
S1-189	Alt4-NB-16	Residential	3	Future McCanna Hills	37	37	55	18	18	B (67)	SI	55	0	0	55	0	0	55	0	0	55	0	0	55	0	0	55	0	0	NP	NP	NP
S1-190	Alt4-NB-16	Residential	2	Future McCanna Hills	37	37	64	27	27	B (67)	SI	64	0	0	64	0	0	64	0	0	64	0	0	64	0	0	64	0	0	NP	NP	NP
S1-191	Alt4-NB-16	Residential	2	Future McCanna Hills	37	37	60	23	23	B (67)	SI	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	NP	NP	NP
S1-192	Alt4-NB-16	Residential	3	Future McCanna Hills	37	37	60	23	23	B (67)	SI	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	NP	NP	NP
S1-193	Alt4-NB-16	Residential	4	Future McCanna Hills	37	37	59	22	22	B (67)	SI	58	1	0	58	1	0	58	1	0	58	1	0	58	1	0	58	1	0	NP	NP	NP
S1-194	Alt4-NB-16	Residential	6	Future McCanna Hills	37	37	58	21	21	B (67)	SI	56	2	0	56	2	0	56	2	0	56	2	0	56	2	0	56	2	0	NP	NP	NP
S1-195	Alt4-NB-16	Residential	6	Future McCanna Hills	37	37	57	20	20	B (67)	SI	56	1	0	56	1	0	55	2	0	55	2	0	55	2	0	55	2	0	NP	NP	NP
S1-196	Alt4-NB-16	Residential	3	Future McCanna Hills	37	37	56	19	19	B (67)	SI	55	1	0	55	1	0	55	1	0	55	1	0	55	1	0	55	1	0	NP	NP	NP
S1-197	Alt4-NB-16	Residential	3	Future McCanna Hills	37	37	56	19	19	B (67)	SI	55	1	0	55	1	0	55	1	0	54	2	0	54	2	0	54	2	0	NP	NP	NP
S1-198	Alt4-NB-16	Residential	2	Future McCanna Hills	37	37	56	19	19	B (67)	SI	55	1	0	54	2	0	54	2	0	54	2	0	54	2	0	54	2	0	NP	NP	NP
S1-199	Alt4-NB-16	Residential	2	Future McCanna Hills	37	37	56	19	19	B (67)	SI	56	0	0	56	0	0	56	0	0	56	0	0	56	0	0	55	1	0	NP	NP	NP
S1-200	Alt4-NB-16	Residential	2	Future McCanna Hills	37	37	56	19	19	B (67)	SI	56	0	0	56	0	0	55	1	0	55	1	0	55	1	0	55	1	0	NP	NP	NP
S1-201	Alt4-NB-16	Residential	2	Future McCanna Hills	37	37	53	16	16	B (67)	SI	53	0	0	53	0	0	53	0	0	53	0	0	53	0	0	53	0	0	NP	NP	NP
S1-201a		Vacant	1	South of Future Build Alternative	37	37	46	9	9	G	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-1	Alt4-NB-41/42	Residential	3	Future Stoneridge	41	46	60	14	19	B (67)	SI	57	3	0	56	4	0	56	4	0	55	5	3	54*	6	3	NP	NP	0	NP	NP	NP
S2-2	Alt4-NB-41/42	Residential	3	Future Stoneridge	41	46	60	14	19	B (67)	SI	57	3	0	56	4	0	55	5	3	54	6	3	53*	7	3	NP	NP	0	NP	NP	NP
S2-3	Alt4-NB-41/42	Residential	3	Future Stoneridge	42	47	60	13	18	B (67)	SI	56	4	0	56	4	0	55	5	3	53	7	3	53*	7	3	NP	NP	0	NP	NP	NP
S2-4	Alt4-NB-41/42	Residential	3	Future Stoneridge	42	47	60	13	18	B (67)	SI	56	4	0	56	4	0	54	6	3	53	7	3	53*	7	3	NP	NP	0	NP	NP	NP
S2-5	Alt4-NB-41/42	Residential	3	Future Stoneridge	42	47	60	13	18	B (67)	SI	56	4	0	55	5	3	54	6	3	53	7	3	53*	7	3	NP	NP	0	NP	NP	NP
S2-6	Alt4-NB-41/42	Residential	3	Future Stoneridge	42	47	59	12	17	B (67)	SI	56	3	0	56	3	0	54	5	3	54	5	3	54*	5	3	NP	NP	0	NP	NP	NP
S2-7	Alt4-NB-41/42	Residential	3	Future Stoneridge	42	47	58	11	16	B (67)	SI	56	2	0	55	3	0	54	4	0	53	5	3	53*	5	3	NP	NP	0	NP	NP	NP
S2-8	Alt4-NB-41/42	Residential	3	Future Stoneridge	43	48	58	10	15	B (67)	SI	55	3	0	55	3	0	53	5	3	53	5	3	53*	5	3	NP	NP	0	NP	NP	NP
S2-9	Alt4-NB-41/42	Residential	3	Future Stoneridge	42	48	57	9	15	B (67)	SI	55	2	0	54	3	0	53	4	0	53	4	0	52*	5	3	NP	NP	0	NP	NP	NP
S2-10	Alt4-NB-41/42	Residential	3	Future Stoneridge	43	48	57	9	14	B (67)	SI	55	2	0	54	3	0	53	4	0	52	5	3	52*	5	3	NP	NP	0	NP	NP	NP
S2-11	Alt4-NB-41/42	Residential	3	Future Stoneridge	43	48	57	9	14	B (67)	SI	55	2	0	54	3	0	53	4	0	52	5	3	52*	5	3	NP	NP	0	NP	NP	NP
S2-12	Alt4-NB-41/42	Residential	2	Future Stoneridge	41	46	58	12	17	B (67)	SI	54	4	0	54	4	0	53	5	2	52	6	2	52*	6	2	NP	NP	0	NP	NP	NP
S2-13	Alt4-NB-41/42	Residential	3	Future Stoneridge	41	47	57	10	16	B (67)	SI	53	4	0	53	4	0	52	5	3	51	6	3	51*	6	3	NP	NP	0	NP	NP	NP
S2-14	Alt4-NB-41/42	Residential	3	Future Stoneridge	41	47	56	9	15	B (67)	SI	53	3	0	53	3	0	52	4	0	51	5	3	50*	6	3	NP	NP	0	NP	NP	NP
S2-15	Alt4-NB-41/42	Residential	3	Future Stoneridge	42	47	56	9	14	B (67)	SI	53	3	0	53	3	0	51	5	3	51	5	3	50*	6	3	NP	NP	0	NP	NP	NP
S2-16		Residential	3	Future Community Southwest	43	48	50	2	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-17		Residential	4	Future Community Southwest	44	49	52	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-18		Residential	3	Future Community Southwest	46	51	54	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-19		Residential	4	Future Community Southwest	47	52	56	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-20		Residential	2	Future Community Southwest	49	54	59	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-21		Residential	3	Future Community Southwest	51	55	60	5	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP

Table 3.15.Q Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 4 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-22	Alt4-NB-43	Residential	4	Future Community Southwest	51	55	59	4	8	B (67)	--	58	1	0	58	1	0	58	1	0	57*	2	0	57	2	0	NP	NP	0	NP	NP	NP
S2-23		Residential	3	Future Community Southwest	43	48	51	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-24		Residential	5	Future Community Southwest	45	50	53	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-25		Residential	5	Future Community Southwest	47	52	55	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-26	Alt4-NB-43	Residential	3	Future Community Southwest	49	53	58	5	9	B (67)	--	57	1	0	56	2	0	56	2	0	56*	2	0	56	2	0	NP	NP	0	NP	NP	NP
S2-27	Alt4-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	59	2	0	58	3	0	57	4	0	56*	5	3	55	6	3	NP	NP	0	NP	NP	NP
S2-28	Alt4-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	58	3	0	58	3	0	56	5	3	55*	6	3	54	7	3	NP	NP	0	NP	NP	NP
S2-29	Alt4-NB-43	Residential	2	Future Community Southwest	51	55	61	6	10	B (67)	--	58	3	0	58	3	0	56	5	2	55*	6	2	54	7	2	NP	NP	0	NP	NP	NP
S2-30	Alt4-NB-43	Residential	4	Future Community Southwest	48	53	56	3	8	B (67)	--	55	1	0	55	1	0	54	2	0	53*	3	0	53	3	0	NP	NP	0	NP	NP	NP
S2-31	Alt4-NB-43	Residential	1	Future Community Southwest	48	53	58	5	10	B (67)	--	56	2	0	56	2	0	55	3	0	53*	5	1	52	6	1	NP	NP	0	NP	NP	NP
S2-32	Alt4-NB-43	Residential	3	Future Community Southwest	49	54	59	5	10	B (67)	--	58	1	0	57	2	0	56	3	0	54*	5	3	53	6	3	NP	NP	0	NP	NP	NP
S2-33	Alt4-NB-43	Residential	3	Future Community Southwest	51	56	63	7	12	B (67)	SI	60	3	0	59	4	0	58	5	3	56*	7	3	55	8	3	NP	NP	0	NP	NP	NP
S2-34	Alt4-NB-43	Residential	3	Future Community Southwest	50	55	63	8	13	B (67)	SI	59	4	0	59	4	0	58	5	3	55*	8	3	55	8	3	NP	NP	0	NP	NP	NP
S2-35	Alt4-NB-43	Residential	3	Future Community Southwest	47	51	58	7	11	B (67)	--	55	3	0	54	4	0	53	5	3	51*	7	3	51	7	3	NP	NP	0	NP	NP	NP
S2-36	Alt4-NB-43	Residential	3	Future Community Southwest	48	53	61	8	13	B (67)	SI	58	3	0	57	4	0	56	5	3	54*	7	3	53	8	3	NP	NP	0	NP	NP	NP
S2-37	Alt4-NB-43	Residential	5	Future Community Southwest	47	52	59	7	12	B (67)	SI	56	3	0	55	4	0	54	5	5	52*	7	5	51	8	5	NP	NP	0	NP	NP	NP
S2-38	Alt4-NB-43	Residential	5	Future Community Southwest	52	57	**69**	12	17	B (67)	SI	63	6	5	62	7	5	60	9	5	58*	11	5	57	12	5	NP	NP	0	NP	NP	NP
S2-39	Alt4-NB-43	Residential	3	Future Community Southwest	52	57	**66**	9	14	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0	NP	NP	NP
S2-40	Alt4-NB-43	Residential	3	Future Community Southwest	52	57	**67**	10	15	B (67)	SI	63	4	0	62	5	3	59	8	3	58*	9	3	57	10	3	NP	NP	0	NP	NP	NP
S2-41	Alt4-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	15	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0	NP	NP	NP
S2-42	Alt4-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	15	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0	NP	NP	NP
S2-43	Alt4-NB-43	Residential	3	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	3	58	7	3	57*	8	3	56	9	3	NP	NP	0	NP	NP	NP
S2-44	Alt4-NB-43	Residential	2	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	2	58	7	2	57*	8	2	56	9	2	NP	NP	0	NP	NP	NP
S2-45	Alt4-NB-43	Residential	4	Future Community Southwest	51	56	**66**	10	15	B (67)	SI	62	4	0	61	5	4	58	8	4	57*	9	4	56	10	4	NP	NP	0	NP	NP	NP
S2-46	Alt4-NB-43	Residential	5	Future Community Southwest	49	54	63	9	14	B (67)	SI	59	4	0	58	5	5	56	7	5	55*	8	5	54	9	5	NP	NP	0	NP	NP	NP
S2-47	Alt4-NB-43	Residential	4	Future Community Southwest	49	54	61	7	12	B (67)	SI	58	3	0	57	4	0	55	6	4	54*	7	4	53	8	4	NP	NP	0	NP	NP	NP
S2-48	Alt4-NB-43	Residential	5	Future Community Southwest	48	53	61	8	13	B (67)	SI	57	4	0	57	4	0	54	7	5	53*	8	5	53	8	5	NP	NP	0	NP	NP	NP
S2-49	Alt4-NB-43	Residential	3	Future Community Southwest	47	52	60	8	13	B (67)	SI	57	3	0	56	4	0	54	6	3	53*	7	3	52	8	3	NP	NP	0	NP	NP	NP
S2-50	Alt4-NB-43	Residential	3	Future Community Southwest	46	51	59	8	13	B (67)	SI	56	3	0	56	3	0	53	6	3	52*	7	3	52	7	3	NP	NP	0	NP	NP	NP
S2-51	Alt4-NB-43	Residential	2	Future Community Southwest	51	55	65	10	14	B (67)	SI	61	4	0	59	6	2	57	8	2	56*	9	2	56	9	2	NP	NP	0	NP	NP	NP
S2-52	Alt4-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	58	5	4	57	6	4	55	8	4	54*	9	4	53	10	4	NP	NP	0	NP	NP	NP
S2-53	Alt4-NB-43	Residential	3	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0	NP	NP	NP
S2-54	Alt4-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	4	56	7	4	55*	8	4	54	9	4	NP	NP	0	NP	NP	NP
S2-55	Alt4-NB-43	Residential	3	Future Community Southwest	49	53	64	11	15	B (67)	SI	59	5	3	58	6	3	56	8	3	55*	9	3	54	10	3	NP	NP	0	NP	NP	NP
S2-56	Alt4-NB-43	Residential	5	Future Community Southwest	47	52	64	12	17	B (67)	SI	59	5	5	58	6	5	56	8	5	55*	9	5	54	10	5	NP	NP	0	NP	NP	NP
S2-57		Park	12[2]	Future The Villages of Lakeview	52	57	59	2	7	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-58	Alt4-NB-44	Residential	8[2]	Future The Villages of Lakeview	52	57	57	0	5	B (67)	--	57	0	0	57	0	0	57	0	0	57	0	0	57	0	0	NP	NP	0	NP	NP	NP
S2-59	Alt4-NB-44	Residential	8[2]	Future The Villages of Lakeview	53	57	63	6	10	B (67)	--	61	2	0	60	3	0	60	3	0	59	4	0	58	5	8	NP	NP	0	NP	NP	NP
S2-60	Alt4-NB-44	Residential	8[2]	Future The Villages of Lakeview	52	57	64	7	12	B (67)	SI	61	3	0	60	4	0	59	5	8	58	6	8	58	6	8	NP	NP	0	NP	NP	NP
S2-61	Alt4-NB-44	Residential	1	Future The Villages of Lakeview	56	60	**67**	7	11	B (67)	A/E	63	4	0	62	5	1	61	6	1	60	7	1	59	8	1	NP	NP	0	NP	NP	NP
S2-62	Alt4-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	60	**71**	11	16	B (67)	SI	64	7	6	63	8	6	62	9	6	61	10	6	60	11	6	NP	NP	0	NP	NP	NP
S2-63	Alt4-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	**70**	9	15	B (67)	SI	64	6	6	63	7	6	61	9	6	60	10	6	59	11	6	NP	NP	0	NP	NP	NP
S2-64	Alt4-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	**68**	7	13	B (67)	SI	63	5	6	62	6	6	60	8	6	59	9	6	58	10	6	NP	NP	0	NP	NP	NP
S2-65	Alt4-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	**68**	7	13	B (67)	SI	63	5	6	61	7	6	60	8	6	59	9	6	59	9	6	NP	NP	0	NP	NP	NP
S2-66	Alt4-NB-44	Residential	15[2]	Future The Villages of Lakeview	56	61	**70**	9	14	B (67)	SI	65	5	15	64	6	15	62	8	15	61	9	15	60	10	15	NP	NP	0	NP	NP	NP
S2-67		Residential	1	Reservoir Avenue	44	49	54	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-68		Commercial	1	Reservoir Avenue	57	62	71	9	14	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-68a	Alt4-NB-45	Residential	1	Palm Avenue	48	52	58	6	10	B (67)	--	58	0	0	58	0	0	58	0	0	58	0	0	57*	1	0	NP	NP	0	NP	NP	NP
S2-69	Alt4-NB-45	Residential	1	Reservoir Avenue	49	54	63	9	14	B (67)	SI	63	0	0	62	1	0	61	2	0	60	3	0	59*	4	0	NP	NP	0	NP	NP	NP
S2-70	Alt4-NB-45	Residential	1	Magnolia Avenue	57	62	**73**	11	16	B (67)	SI	**69**	4	0	**67**	6	1	65	8	1	64	9	1	62*	11	1	NP	NP	0	NP	NP	NP
S2-71	Alt4-NB-45	School	1[2]	Magnolia Avenue	59	63	**73**	10	14	C (67)	SI	**69**	4	0	**67**	6	1	65	8	1	63	10	1	62*	11	1	NP	NP	0	NP	NP	NP
S2-72	Alt4-NB-45	Residential	3	Magnolia Avenue	52	57	**67**	10	15	B (67)	SI	65	2	0	63	4	0	62	5	3	60	7	3	59*	8	3	NP	NP	0	NP	NP	NP
S2-73	Alt4-NB-45	Residential	2	Magnolia Avenue	54	59	65	6	11	B (67)	--	64	1	0	62	3	0	61	4	0	60	5	2	59*	6	2	NP	NP	0	NP	NP	NP
S2-74	Alt4-NB-45	Residential	2	Date Street	54	59	65	6	11	B (67)	--	64	1	0	63	2	0	62	3	0	61	4	0	60*	5	2	NP	NP	0	NP	NP	NP
S2-75	Alt4-NB-45	Residential	1	Date Street	51	56	62	6	11	B (67)	--	61	1	0	60	2	0	59	3	0	58	4	0	58*	4	0	NP	NP	0	NP	NP	NP
S2-76		Commercial	1	Reservoir Avenue	65	70	74	4	9	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-77	Alt4-NB-45	Sports Field	7[2]	Hansen Avenue	57	57	61	4	4	C (67)	--	59	2	0	58	3	0	57	4	0	56	5	7	56*	5	7	NP	NP	0	NP	NP	NP
S2-77a	Alt4-NB-45	Residential	1	Orange Street	42	47	55	8	13	B (67)	SI	51	4	0	51	4	0	50	5	1	49	6	1	49*	6	1	NP	NP	0	NP	NP	NP
S2-78	Alt4-NB-45	Park	10[2]	Future The Villages of Lakeview	51	56	**67**	11	16	C (67)	SI	62	5	10	61	6	10	60	7	10	58	9	10	57*	10	10	NP	NP	0	NP	NP	NP
S2-79	Alt4-NB-45	Residential	15[2]	Future The Villages of Lakeview	47	52	62	10	15	B (67)	SI	58	4	0	57	5	15	57	5	15	55	7	15	55*	7	15	NP	NP	0	NP	NP	NP
S2-80	Alt4-NB-46	Residential	1	Ramona Expressway	59	65	**73**	8	14	B (67)	SI	**67**	6	1	**66**	7	1	65	8	1	63	10	1	63	10	1	NP	NP	0	NP	NP	NP

Table 3.15.Q Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 4 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-81	Alt4-NB-46	Residential	1	Ramona Expressway	51	55	64	9	13	B (67)	SI	60	4	0	60	4	0	59	5	1	58	6	1	57	7	1	NP	NP	0	NP	NP	NP
S2-82	Alt4-NB-46	Residential	1	Ramona Expressway	48	52	60	8	12	B (67)	SI	56	4	0	56	4	0	55	5	1	54	6	1	54	6	1	NP	NP	0	NP	NP	NP
S2-83	Alt4-NB-46	Residential	1	Ramona Expressway	52	57	65	8	13	B (67)	SI	62	3	0	61	4	0	60	5	1	59	6	1	58	7	1	NP	NP	0	NP	NP	NP
S2-84	Alt4-NB-46	Residential	1	Ramona Expressway	52	58	**67**	9	15	B (67)	SI	62	5	1	61	6	1	60	7	1	58	9	1	58	9	1	NP	NP	0	NP	NP	NP
S2-85	Alt4-NB-46	Residential	1	Ramona Expressway	48	53	63	10	15	B (67)	SI	59	4	0	59	4	0	58	5	1	56	7	1	55	8	1	NP	NP	0	NP	NP	NP
S2-86		Residential	9[2]	Future Motte Ranch	46	51	57	6	11	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-87		Residential	9[2]	Future Motte Ranch	51	56	61	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-88		Agricultural	1	Ramona Expressway	52	58	62	4	10	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-89	Alt4-NB-47	Residential	10[2]	Future The Villages of Lakeview	55	59	**72**	13	17	B (67)	SI	**72**	0	0	**70**	2	0	**68**	4	0	**66**	6	10	64	8	10	NP	NP	0	NP	NP	NP
S2-90	Alt4-NB-47	Residential	10[2]	Future The Villages of Lakeview	56	61	**74**	13	18	B (67)	SI	**68**	6	10	**67**	7	10	**66**	8	10	63	11	10	62	12	10	NP	NP	0	NP	NP	NP
S2-91	Alt4-NB-47	Residential	12[2]	Future The Villages of Lakeview	55	60	**75**	15	20	B (67)	SI	**70**	5	12	**68**	7	12	**67**	8	12	64	11	12	63	12	12	NP	NP	0	NP	NP	NP
S2-92	Alt4-NB-47	Residential	8[2]	Future The Villages of Lakeview	54	60	**74**	14	20	B (67)	SI	**72**	2	0	**71**	3	0	**69**	5	8	**67**	7	8	65	9	8	NP	NP	0	NP	NP	NP
S2-93	Alt4-NB-47	Residential	10[2]	Future The Villages of Lakeview	50	55	**67**	12	17	B (67)	SI	63	4	0	62	5	10	61	6	10	60	7	10	59	8	10	NP	NP	0	NP	NP	NP
S2-94	Alt4-NB-48	Residential	8[2]	Future The Villages of Lakeview	55	60	**72**	12	17	B (67)	SI	**71**	1	0	**69**	3	0	**68**	4	0	**66**	6	8	65*	7	8	NP	NP	0	NP	NP	NP
S2-95	Alt4-NB-48	Residential	6[2]	Future The Villages of Lakeview	57	62	**75**	13	18	B (67)	SI	**70**	5	6	**69**	6	6	**68**	7	6	**66**	9	6	65*	10	6	NP	NP	0	NP	NP	NP
S2-96	Alt4-NB-48	Residential	6[2]	Future The Villages of Lakeview	57	62	**76**	14	19	B (67)	A/E	**70**	6	6	**69**	7	6	**67**	9	6	65	11	6	64*	12	6	NP	NP	0	NP	NP	NP
S2-97	Alt4-NB-48	Residential	7[2]	Future The Villages of Lakeview	56	62	**75**	13	19	B (67)	SI	**69**	6	7	**68**	7	7	**66**	9	7	64	11	7	63*	12	7	NP	NP	0	NP	NP	NP
S2-98	Alt4-NB-48	Residential	9[2]	Future The Villages of Lakeview	56	62	**76**	14	20	B (67)	A/E	**69**	7	9	**68**	8	9	**67**	9	9	64	12	9	63*	13	9	NP	NP	0	NP	NP	NP
S2-99	Alt4-NB-48	Residential	16[2]	Future The Villages of Lakeview	56	61	**74**	13	18	B (67)	SI	**70**	4	0	**69**	5	16	**68**	6	16	**66**	8	16	64*	10	16	NP	NP	0	NP	NP	NP
S2-99a		Residential	1	Ramona Expressway	38	49	49	0	11	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-1a		Agricultural	1	Ramona Expressway	48	53	63	10	15	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-1	Alt4-NB-49	Residential	1	Ramona Expressway	56	61	**69**	8	13	B (67)	SI	63	6	1	61	8	1	60	9	1	58*	11	1	57	12	1	NP	NP	0	NP	NP	NP
S3-2	Alt4-NB-49	Residential	1	Ramona Expressway	45	50	58	8	13	B (67)	SI	54	4	0	53	5	1	53	5	1	52*	6	1	51	7	1	NP	NP	0	NP	NP	NP
S3-3	Alt4-NB-49	Residential	1	Ramona Expressway	47	52	61	9	14	B (67)	SI	56	5	1	55	6	1	54	7	1	53*	8	1	53	8	1	NP	NP	0	NP	NP	NP
S3-4	Alt4-NB-49	Residential	1	Ramona Expressway	47	52	61	9	14	B (67)	SI	56	5	1	55	6	1	55	6	1	54*	7	1	53	8	1	NP	NP	0	NP	NP	NP
S3-5	Alt4-NB-50	Residential	1	Warren Road	46	49	60	11	14	B (67)	SI	55	5	1	52*	8	1	50	10	1	49	11	1	48	12	1	48	12	1	NP	NP	NP
S3-6	Alt4-NB-51	Residential	1	Warren Road	46	49	60	11	14	B (67)	SI	59	1	0	57	3	0	55*	5	1	54	6	1	53	7	1	53	7	1	NP	NP	NP
S3-7		Residential	1	Warren Road	51	54	57	3	6	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-8		Residential	1	Warren Road	46	48	51	3	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-9		Agricultural	1	Warren Road	58	60	64	4	6	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-10		Residential	1	Ramona Expressway	55	59	52	-7	-3	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-11		Residential	1	Sanderson Avenue	64	**68**	63	-5	-1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-12	Alt4-NB-52/53/54	Residential	1	Ramona Boulevard	48	51	65	14	17	B (67)	SI	62	3	0	61	4	0	61	4	0	60*	5	1	60	5	1	NP	NP	0	NP	NP	NP
S3-13	Alt4-NB-52/53/54	Residential	1	Ramona Boulevard	46	49	62	13	16	B (67)	SI	59	3	0	59	3	0	58	4	0	57*	5	1	57	5	1	NP	NP	0	NP	NP	NP

Source: *Final Noise Study Report* (January 2012).
[1] I.L.: Insertion Loss.
[2] 100 ft frontage units were used to determine the number of benefited residences for nonresidential uses.
[3] Numbers in **bold** represent noise levels that approach or exceed the NAC.
[4] Underlined noise levels have been attenuated by at least 5 dB (i.e., feasible barrier height).
[5] NP = Not Permitted. Noise barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.
[6] The shaded areas represent those receptors that would be acquired by the proposed project under Alternative 4 Modified.
[7] A/E = Approach or exceed the NAC.
* Minimum height needed to break the line of sight between 11.5 ft truck stack and first-row receptors.
Negative numbers in the table are due to changing shielding effects or noise sources under Alternative 4 Modified.
Noise levels for S1-139 to S1-157, S1-185 to S1-201, and S1-201a were adopted from noise monitoring work for existing and future no build conditions since no roadway currently exists.
Segment 1A: S1-1 to S1-59, representing all Build Alternatives.
Segment 1B: S1-60 to S1-201 and S1-201a, representing Alternative 4 Modified.
Segment 2: S2-1 to S2-99 and S2-99a, representing all Build Alternatives.
Segment 3: S3-1a and S3-1 to S3-13, representing all Build Alternatives.
Alt = Alternative
dB = decibels
dBA $L_{eq}(h)$ = equivalent continuous sound level per hour measured in A-weighted decibels
ft = foot/feet
NAC = Noise Abatement Criteria
NB = Noise Barrier
NBR = Number of Benefited Receptors
RV = recreational vehicle
SI = A substantial increase where predicted worst-hour 2040 noise levels exceed existing worst-hour noise levels by 12 dB.

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-1		Cemetery	3[2]	Van Buren Boulevard	54	55	56	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-2		Cemetery	5[2]	Van Buren Boulevard	57	58	59	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-3		Cemetery	5[2]	Van Buren Boulevard	62	63	64	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-4		Air Force Museum	1	Van Buren Boulevard	60	61	62	1	2	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-5a		Industrial	1	Harvill Avenue	65	66	68	2	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-5b	Alt5-NB-1	Residential	3	W. Oleander Avenue	59	60	63	3	4	B (67)	--	60	3	0	60	3	0	60	3	0	59*	4	0	59	4	0	NP[5]	NP	0
S1-5c	Alt5-NB-1	Residential	1	W. Oleander Avenue	59	59	63	4	4	B (67)	--	60	3	0	60	3	0	60	3	0	59*	4	0	59	4	0	NP	NP	0
S1-5		Commercial	1	Wade Avenue	73	74	77	3	4	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-6		Commercial	1	Wade Avenue	67	68	--[4]	--	--	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-7		Residential (RV)	1	Wade Avenue	**66**[3]	**67**	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-8		Residential (RV)	1	Wade Avenue	**67**	**69**	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-9	Alt5-NB-1	Residential (RV)	2	Wade Avenue	63	64	**76**	12	13	B (67)	A/E[6]	**68**[7]	8	2	**67**	9	2	**66**	10	2	64*	12	2	63	13	2	NP	NP	0
S1-10		Residential (RV)	1	Wade Avenue	**66**	**67**	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-11	Alt5-NB-1	Residential (RV)	2	Wade Avenue	62	63	**73**	10	11	B (67)	A/E	**66**	7	2	64	9	2	63	10	2	61*	12	2	60	13	2	NP	NP	0
S1-12	Alt5-NB-1	Residential (RV)	2	Wade Avenue	64	65	**73**	8	9	B (67)	A/E	**67**	6	2	65	8	2	64	9	2	63*	10	2	62	11	2	NP	NP	0
S1-12a	Alt5-NB-1	Residential (RV)	2	Wade Avenue	63	63	**70**	7	7	B (67)	A/E	65	5	2	64	6	2	63	7	2	62*	8	2	61	9	2	NP	NP	0
S1-12b	Alt5-NB-1	Residential (RV)	2	Wade Avenue	63	63	**70**	7	7	B (67)	A/E	65	5	2	64	6	2	63	7	2	61*	9	2	61	9	2	NP	NP	0
S1-12c	Alt5-NB-1	Residential	1	California Street	58	59	63	4	5	B (67)	--	59	4	0	59	4	0	59	4	0	58*	5	1	57	6	1	NP	NP	0
S1-13		Commercial	1	Wade Avenue	70	71	--	--	--	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-14	Alt5-NB-1	Residential	1	Wade Avenue	63	63	**71**	8	8	B (67)	A/E	65	6	1	64	7	1	64	7	1	62	9	1	61	10	1	NP	NP	0
S1-15	Alt5-NB-1	Residential	1	W. Nance Street	57	58	65	7	8	B (67)	--	59	6	1	59	6	1	59	6	1	57*	8	1	56	9	1	NP	NP	0
S1-16		Residential	2	Wade Avenue	**68**	**69**	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-17		Residential	2	Wade Avenue	62	63	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-18		Outdoor Eating Area	1	Wade Avenue	**68**	**69**	--	--	--	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-19	Alt5-NB-1	Residential	2	Wade Avenue	60	61	**69**	8	9	B (67)	A/E	64	5	2	63	6	2	62	7	2	61*	8	2	61	8	2	NP	NP	0
S1-20		Residential	3	Wade Avenue	61	62	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-21	Alt5-NB-1	Residential	1	Wade Avenue	62	63	**70**	7	8	B (67)	A/E	64	6	1	64	6	1	63	7	1	62*	8	1	61	9	1	NP	NP	0
S1-22		Residential	1	Patterson Avenue	63	64	--	--	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-23		Commercial	1	Cajalco Road	71	74	75	1	4	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-24		Outdoor Eating Area	1	Cajalco Road	64	**68**	**68**	0	4	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-25		Outdoor Eating Area	1	Cajalco Road	62	65	65	0	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-26		Outdoor Eating Area	1	Cajalco Road	64	**66**	**67**	1	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-27a		Agriculture	1	Cajalco Road	62	65	65	0	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-27b		Industrial	1	Cajalco Road	70	72	63	-9	-7	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-27		School	2[2]	Nevada Road	58	58	62	4	4	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-28		School	1[2]	Nevada Road	58	59	63	4	5	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-29		Office	1	Morgan Street	66	66	**72**	6	6	E (72)	A/E	NF[8]	NF	0	NF	NF	0	NF	NF	0	NF	NF	0	NF	NF	0	NF	NF	0
S1-30		Office	1	Webster Avenue	65	66	69	3	4	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-31		Commercial	1	Rider Street	63	64	61	-3	-2	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-32		Residential	2	Susan Lane	57	58	56	-2	-1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-32a		Industrial	1	Rider Street	74	75	77	2	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-33		Residential	1	Susan Lane	58	58	56	-2	-2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-34		Residential	1	Susan Lane	55	57	57	0	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-35		Residential	1	Hagan Lane	56	57	57	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-36		Residential	2	Hagan Lane	55	56	56	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-37		Residential	1	W. Placentia Avenue	56	57	63	6	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-38		Residential	1	Indian Avenue	53	57	55	-2	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-39		Residential	1	Indian Avenue	54	57	59	2	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-40		Residential	2	Indian Avenue	55	58	56	-2	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-41		School	6[2]	Indian Avenue	58	59	59	0	1	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-42		School	5[2]	Indian Avenue	56	58	57	-1	1	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-43	Alt5-NB-2	Private Recreational	4[2]	Orange Avenue	59	60	**66**	6	7	C (67)	A/E	63	3	0	62	4	0	61*	5	4	60	6	4	59	7	4	59	7	4
S1-44		Storage	1	Daytona Cove	62	63	65	2	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-45		Commercial	1	W. Nuevo Road	64	65	66	1	2	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-46a		Residential	6	North A Street	54	55	56	1	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-46	Alt5-NB-3	School	1[2]	North A Street	65	**67**	**67**	0	2	C (67)	A/E	61*	6	1	58	9	1	56	11	1	55	12	1	54	13	1	53	14	1
S1-47		Office	1	North A Street	61	62	62	0	1	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-48	Alt5-NB-4	Residential	2	Coliseum Street	64	**66**	**66**	0	2	B (67)	A/E	**66**	0	0	**66**	0	0	**66**	0	0	65	1	0	64	2	0	63	3	0
S1-49	Alt5-NB-4	Residential	2	Coliseum Street	63	64	65	1	2	B (67)	--	65	0	0	64	1	0	64	1	0	62	3	0	62	3	0	61	4	0
S1-50	Alt5-NB-4	Residential	1	Coliseum Street	64	65	**66**	1	2	B (67)	A/E	**66**	0	0	**66**	0	0	**66**	0	0	65	1	0	64	2	0	63	3	0
S1-51	Alt5-NB-4	Residential	2	Fenway Lane	63	65	**66**	1	3	B (67)	A/E	**66**	0	0	**66**	0	0	**66**	0	0	65	1	0	64	2	0	63	3	0
S1-52	Alt5-NB-4	Residential	2	Fenway Lane	63	65	65	0	2	B (67)	--	65	0	0	65	0	0	65	0	0	65	0	0	64	1	0	63	2	0
S1-53	Alt5-NB-4	Residential	2	Coliseum Street	57	59	59	0	2	B (67)	--	59	0	0	58	1	0	58	1	0	58	1	0	57	2	0	57	2	0
S1-54	Alt5-NB-4	Residential	2	Coliseum Street	61	63	63	0	2	B (67)	--	63	0	0	63	0	0	63	0	0	62	1	0	61	2	0	59	4	0
S1-55		Residential	2	Fenway Lane	59	60	60	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-56		Residential	2	Fenway Lane	55	56	57	1	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-57		Residential	4	Fenway Lane	55	56	56	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-58		Residential	4	Fenway Lane	55	56	56	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-59		Residential	2	Bowen Road	60	61	61	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-202a		Commercial	1	Perris Boulevard	61	64	63	-1	2	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-202	Alt5-NB-19	Residential	1	Santo Tomas Avenue	62	65	**69**	4	7	B (67)	A/E	61	8	1	61	8	1	60*	9	1	59	10	1	59	10	1	59	10	1
S1-203	Alt5-NB-19	Residential	2	Santo Tomas Avenue	60	62	**71**	9	11	B (67)	A/E	63	8	2	61	10	2	60*	11	2	59	12	2	58	13	2	58	13	2
S1-204	Alt5-NB-19	Residential	3	Santo Tomas Avenue	60	62	**72**	10	12	B (67)	SI	65	7	3	62	10	3	60*	12	3	59	13	3	59	13	3	58	14	3
S1-205	Alt5-NB-20	Residential	1	Santo Tomas Avenue	61	64	**66**	2	5	B (67)	A/E	64	2	0	63	3	0	61*	5	1	60	6	1	59	7	1	59	7	1
S1-206	Alt5-NB-21/22/27	Residential	3	El Rosario Drive	57	60	63	3	6	B (67)	--	60	3	0	60	3	0	60	3	0	59*	4	0	59	4	0	NP	NP	0
S1-207	Alt5-NB-21/22/27	Residential	2	Santo Tomas Avenue	55	58	62	4	7	B (67)	--	60	2	0	60	2	0	60	2	0	59*	3	0	59	3	0	NP	NP	0
S1-208	Alt5-NB-19	Residential	2	San Felipe Street	54	57	62	5	8	B (67)	--	59	3	0	59	3	0	59*	3	0	58	4	0	58	4	0	58	4	0
S1-209	Alt5-NB-21/22/27	Residential	2	El Rosario Drive	53	56	61	5	8	B (67)	--	59	2	0	59	2	0	58	3	0	58*	3	0	58	3	0	NP	NP	0
S1-210	Alt5-NB-19	Residential	3	Santo Tomas Avenue	53	55	61	6	8	B (67)	--	59	2	0	59	2	0	58*	3	0	58	3	0	58	3	0	58	3	0
S1-211	Alt5-NB-21/22/27	Residential	3	El Rosario Drive	65	**67**	**66**	-1	1	B (67)	A/E	61	5	3	59	7	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S1-212	Alt5-NB-21/22/27	Residential	3	El Rosario Drive	64	**67**	**67**	0	3	B (67)	A/E	61	6	3	60	7	3	59	8	3	58*	9	3	57	10	3	NP	NP	0
S1-213	Alt5-NB-21/22/27	Residential	1	El Rosario Drive	63	**66**	**69**	3	6	B (67)	A/E	62	7	1	61	8	1	60	9	1	59*	10	1	58	11	1	NP	NP	0
S1-214	Alt5-NB-21/22/27	Residential	2	Lake View Drive	63	**66**	**72**	6	9	B (67)	A/E	65	7	2	62	10	2	61	11	2	60*	12	2	59	13	2	NP	NP	0
S1-215	Alt5-NB-21/22/27	Residential	2	Lake View Drive	56	58	**70**	12	14	B (67)	SI	64	6	2	63	7	2	62	8	2	60*	10	2	59	11	2	NP	NP	0
S1-216	Alt5-NB-21/22/27	Residential	3	Lake View Drive	50	53	**67**	14	17	B (67)	SI	63	4	0	62	5	3	61	6	3	60*	7	3	59	8	3	NP	NP	0
S1-217	Alt5-NB-21/22/27	Residential	3	Lake View Drive	46	49	**66**	17	20	B (67)	SI	63	3	0	62	4	0	61	5	3	60*	6	3	59	7	3	NP	NP	0
S1-218	Alt5-NB-21/22/27	Residential	3	Lake View Drive	44	47	65	18	21	B (67)	SI	61	4	0	60	5	3	60	5	3	59*	6	3	58	7	3	NP	NP	0

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-219	Alt5-NB-21/22/27	Residential	3	El Rosario Drive	49	52	60	8	11	B (67)	--	56	4	0	56	4	0	56	4	0	55*	5	3	54	6	3	NP	NP	0
S1-220	Alt5-NB-21/22/27	Residential	3	El Rosario Drive	52	55	63	8	11	B (67)	--	58	5	3	58	5	3	58	5	3	56*	7	3	56	7	3	NP	NP	0
S1-221	Alt5-NB-21/22/27	Residential	3	El Rosario Drive	50	52	61	9	11	B (67)	--	58	3	0	57	4	0	57	4	0	55*	6	3	55	6	3	NP	NP	0
S1-222	Alt5-NB-21/22/27	Residential	3	Lake View Drive	49	52	61	9	12	B (67)	SI	58	3	0	57	4	0	57	4	0	56*	5	3	55	6	3	NP	NP	0
S1-223	Alt5-NB-21/22/27	Residential	2	Lake View Drive	47	50	62	12	15	B (67)	SI	58	4	0	57	5	2	56	6	2	55*	7	2	55	7	2	NP	NP	0
S1-224	Alt5-NB-21/22/27	Residential	2	San Felipe Street	47	50	64	14	17	B (67)	SI	60	4	0	59	5	2	58	6	2	57*	7	2	56	8	2	NP	NP	0
S1-225	Alt5-NB-21/22/27	Residential	2	Lake View Drive	44	47	63	16	19	B (67)	SI	59	4	0	58	5	2	58	5	2	57*	6	2	56	7	2	NP	NP	0
S1-226	Alt5-NB-21/22/27	Residential	4	Lake View Drive	43	46	64	18	21	B (67)	SI	60	4	0	59	5	4	58	6	4	57*	7	4	56	8	4	NP	NP	0
S1-227	Alt5-NB-21/22/27	Residential	4	Lake View Drive	42	46	63	17	21	B (67)	SI	59	4	0	58	5	4	58	5	4	56*	7	4	55	8	4	NP	NP	0
S1-228	Alt5-NB-21/22/27	Residential	3	Lake View Drive	41	46	62	16	21	B (67)	SI	58	4	0	57	5	3	57	5	3	55*	7	3	54	8	3	NP	NP	0
S1-228a	Alt5-NB-21/22/27	Residential	8	Lake View Drive	42	47	61	14	19	B (67)	SI	57	4	0	57	4	0	56	5	8	54*	7	8	53	8	8	NP	NP	0
S1-228b	Alt5-NB-21/22/27	Residential	8	Lake View Drive	45	51	60	9	15	B (67)	SI	56	4	0	56	4	0	55	5	8	53*	7	8	52	8	8	NP	NP	0
S1-228c	Alt5-NB-21/22/27	Residential	4	Lake View Drive	43	46	58	12	15	B (67)	SI	55	3	0	54	4	0	54	4	0	53*	5	4	52	6	4	NP	NP	0
S1-228d	Alt5-NB-21/22/27	Residential	5	San Luis Drive	42	46	58	12	16	B (67)	SI	54	4	0	54	4	0	54	4	0	53*	5	5	53	5	5	NP	NP	0
S1-228e	Alt5-NB-21/22/27	Residential	8	Lake View Drive	42	46	56	10	14	B (67)	SI	54	2	0	53	3	0	53	3	0	51*	5	8	51	5	8	NP	NP	0
S1-228f	Alt5-NB-21/22/27	Residential	7	Lake View Drive	43	47	55	8	12	B (67)	SI	53	2	0	52	3	0	52	3	0	50*	5	7	50	5	7	NP	NP	0
S1-228g	Alt5-NB-21/22/27	Residential	6	Lake View Drive	45	51	54	3	9	B (67)	--	52	2	0	51	3	0	51	3	0	49*	5	6	49	5	6	NP	NP	0
S1-229	Alt5-NB-17/18/24	Residential	1	Rider Street	62	64	65	1	3	B (67)	--	62	3	0	61	4	0	61	4	0	60	5	1	59*	6	1	NP	NP	0
S1-230	Alt5-NB-17/18/24	Residential	1	Rider Street	54	56	63	7	9	B (67)	--	60	3	0	60	3	0	59	4	0	59	4	0	58*	5	1	NP	NP	0
S1-231	Alt5-NB-17/18/24	Residential	2	Rider Street	61	63	65	2	4	B (67)	--	61	4	0	61	4	0	60	5	2	60	5	2	59*	6	2	NP	NP	0
S1-232		Commercial	1	Redlands Avenue	48	54	63	9	15	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-233	Alt5-NB-17/18/24	Residential	1	Redlands Avenue	47	54	**66**	12	19	B (67)	SI	62	4	0	61	5	1	59	7	1	58	8	1	57*	9	1	NP	NP	0
S1-234	Alt5-NB-17/18/24	Residential	1	Redlands Avenue	49	56	**68**	12	19	B (67)	SI	63	5	1	62	6	1	60	8	1	59	9	1	58*	10	1	NP	NP	0
S1-235	Alt5-NB-17/18/24	Residential	1	Wilson Avenue	43	50	64	14	21	B (67)	SI	61	3	0	59	5	1	58	6	1	57	7	1	56*	8	1	NP	NP	0
S1-235a	Alt5-NB-17/18/24	Residential	1	Wilson Avenue	43	47	61	14	18	B (67)	SI	57	4	0	57	4	0	56	5	1	54	7	1	54*	7	1	NP	NP	0
S1-236	Alt5-NB-21/22/27	Residential	1	Redlands Avenue	53	60	63	3	10	B (67)	--	60	3	0	59	4	0	57	6	1	56*	7	1	55	8	1	NP	NP	0
S1-237a	Alt5-NB-21/22/27	Residential	3	Placentia Avenue	49	58	60	2	11	B (67)	--	57	3	0	56	4	0	55	5	3	53*	7	3	52	8	3	NP	NP	0
S1-237	Alt5-NB-21/22/27	Residential	2	Placentia Avenue	48	56	61	5	13	B (67)	SI	58	3	0	57	4	0	56	5	2	54*	7	2	54	7	2	NP	NP	0
S1-238	Alt5-NB-21/22/27	Residential	3	Placentia Avenue	47	56	62	6	15	B (67)	SI	58	4	0	57	5	3	56	6	3	54*	8	3	54	8	3	NP	NP	0
S1-239	Alt5-NB-21/22/27	Residential	3	Placentia Avenue	48	56	63	7	15	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0
S1-240	Alt5-NB-21/22/27	Residential	1	Wilson Avenue	55	63	**66**	3	11	B (67)	A/E	62	4	0	61	5	1	58	8	1	57*	9	1	57	9	1	NP	NP	0
S1-241	Alt5-NB-21/22/27	Residential	1	Wilson Avenue	47	55	64	9	17	B (67)	SI	60	4	0	60	4	0	58	6	1	57*	7	1	56	8	1	NP	NP	0
S1-242	Alt5-NB-21/22/27	Residential	2	Wilson Avenue	43	50	62	12	19	B (67)	SI	58	4	0	57	5	2	56	6	2	54*	8	2	53	9	2	NP	NP	0
S1-243	Alt5-NB-21/22/27	Residential	2	Placentia Avenue	47	54	**66**	12	19	B (67)	SI	61	5	2	60	6	2	58	8	2	57*	9	2	56	10	2	NP	NP	0
S1-244	Alt5-NB-21/22/27	Residential	1	Wilson Avenue	41	48	56	8	15	B (67)	SI	54	2	0	53	3	0	53	3	0	52*	4	0	52	4	0	NP	NP	0
S1-245	Alt5-NB-21/22/27	Residential	2	Wilson Avenue	41	49	56	7	15	B (67)	SI	54	2	0	53	3	0	53	3	0	52*	4	0	52	4	0	NP	NP	0
S1-246	Alt5-NB-21/22/27	Residential	2	Wilson Avenue	44	50	**66**	16	22	B (67)	SI	62	4	0	60	6	2	58	8	2	57*	9	2	57	9	2	NP	NP	0
S1-247	Alt5-NB-21/22/27	Residential	3	Placentia Avenue	44	50	**66**	16	22	B (67)	SI	62	4	0	60	6	3	58	8	3	57*	9	3	56	10	3	NP	NP	0
S1-248	Alt5-NB-21/22/27	Residential	3	Placentia Avenue	42	49	**66**	17	24	B (67)	SI	61	5	3	60	6	3	58	8	3	58*	8	3	57	9	3	NP	NP	0
S1-249	Alt5-NB-21/22/27	Residential	3	Placentia Avenue	42	48	**66**	18	24	B (67)	SI	62	4	0	60	6	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S1-250	Alt5-NB-21/22/27	Residential	1	Placentia Avenue	41	47	**66**	19	25	B (67)	SI	62	4	0	61	5	1	60	6	1	59*	7	1	58	8	1	NP	NP	0
S1-251	Alt5-NB-21/22/27	Residential	1	Placentia Avenue	42	49	**67**	18	25	B (67)	SI	63	4	0	61	6	1	61	6	1	60*	7	1	60	7	1	NP	NP	0
S1-252	Alt5-NB-21/22/27	Residential	1	Murieta Road	41	48	65	17	24	B (67)	SI	62	3	0	61	4	0	60	5	1	59*	6	1	58	7	1	NP	NP	0
S1-253	Alt5-NB-21/22/27	Residential	1	Murieta Road	41	47	65	18	24	B (67)	SI	62	3	0	60	5	1	59	6	1	58*	7	1	58	7	1	NP	NP	0

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-254	Alt5-NB-21/22/27	Residential	1	Murieta Road	39	45	64	19	25	B (67)	SI	61	3	0	61	3	0	59	5	1	58*	6	1	57	7	1	NP	NP	0
S1-254a	Alt5-NB-21/22/27	Residential	1	Murieta Road	37	43	61	18	24	B (67)	SI	60	1	0	59	2	0	58	3	0	57*	4	0	56	5	1	NP	NP	0
S1-254b	Alt5-NB-21/22/27	Residential	1	Murieta Road	37	43	61	18	24	B (67)	SI	60	1	0	59	2	0	58	3	0	57*	4	0	56	5	1	NP	NP	0
S1-255a	Alt5-NB-17/18/24	Residential	21	Whimbrel Way	41	46	56	10	15	B (67)	SI	54	2	0	54	2	0	53	3	0	52	4	0	51*	5	21	NP	NP	0
S1-255b	Alt5-NB-17/18/24	Residential	4	Clapper Street	39	45	61	16	22	B (67)	SI	59	2	0	58	3	0	57	4	0	56	5	4	55*	6	4	NP	NP	0
S1-255	Alt5-NB-17/18/24	Residential	4	Clapper Street	39	45	63	18	24	B (67)	SI	60	3	0	59	4	0	58	5	4	57	6	4	56*	7	4	NP	NP	0
S1-256	Alt5-NB-17/18/24	Residential	2	Clapper Street	39	44	63	19	24	B (67)	SI	60	3	0	59	4	0	58	5	2	57	6	2	56*	7	2	NP	NP	0
S1-257	Alt5-NB-17/18/24	Residential	5	Sparrow Way	39	44	60	16	21	B (67)	SI	58	2	0	57	3	0	56	4	0	56	4	0	55*	5	5	NP	NP	0
S1-258	Alt5-NB-17/18/24	Residential	6	Sparrow Way	40	45	59	14	19	B (67)	SI	57	2	0	57	2	0	56	3	0	55	4	0	54*	5	6	NP	NP	0
S1-259	Alt5-NB-17/18/24	Residential	6	Sparrow Way	41	46	59	13	18	B (67)	SI	57	2	0	56	3	0	56	3	0	55	4	0	54*	5	6	NP	NP	0
S1-260	Alt5-NB-17/18/24	Residential	5	Sparrow Way	41	46	59	13	18	B (67)	SI	57	2	0	57	2	0	56	3	0	55	4	0	54*	5	5	NP	NP	0
S1-261	Alt5-NB-17/18/24	Residential	2	Sparrow Way	41	47	59	12	18	B (67)	SI	57	2	0	56	3	0	55	4	0	54	5	2	54*	5	2	NP	NP	0
S1-262	Alt5-NB-17/18/24	Residential	2	Tern Place	41	46	60	14	19	B (67)	SI	58	2	0	57	3	0	57	3	0	57	3	0	56*	4	0	NP	NP	0
S1-263	Alt5-NB-17/18/24	Residential	4	Tern Place	43	48	61	13	18	B (67)	SI	59	2	0	59	2	0	58	3	0	58	3	0	58*	3	0	NP	NP	0
S1-264	Alt5-NB-17/18/24	Residential	4	Sandgrouse Lane	42	48	59	11	17	B (67)	SI	56	3	0	56	3	0	56	3	0	55	4	0	55*	4	0	NP	NP	0
S1-265	Alt5-NB-17/18/24	Residential	4	Egret Circle	47	52	61	9	14	B (67)	SI	58	3	0	58	3	0	57	4	0	57	4	0	56*	5	4	NP	NP	0
S1-266	Alt5-NB-17/18/24	Residential	4	Tern Place	42	47	61	14	19	B (67)	SI	59	2	0	58	3	0	57	4	0	56	5	4	55*	6	4	NP	NP	0
S1-267	Alt5-NB-17/18/24	Residential	4	Sandgrouse Lane	44	49	60	11	16	B (67)	SI	58	2	0	58	2	0	57	3	0	56	4	0	55*	5	4	NP	NP	0
S1-268	Alt5-NB-17/18/24	Residential	2	Sandgrouse Lane	43	48	62	14	19	B (67)	SI	60	2	0	59	3	0	58	4	0	57	5	2	57*	5	2	NP	NP	0
S1-269	Alt5-NB-17/18/24	Residential	4	Egret Circle	44	49	61	12	17	B (67)	SI	59	2	0	58	3	0	57	4	0	56	5	4	56*	5	4	NP	NP	0
S1-270	Alt5-NB-17/18/24	Residential	2	Sandgrouse Lane	45	50	61	11	16	B (67)	SI	59	2	0	58	3	0	57	4	0	57	4	0	56*	5	2	NP	NP	0
S1-271	Alt5-NB-17/18/24	Residential	3	Egret Circle	46	51	61	10	15	B (67)	SI	59	2	0	59	2	0	58	3	0	57	4	0	57*	4	0	NP	NP	0
S1-272	Alt5-NB-17/18/24	Residential	5	Tern Place	44	49	60	11	16	B (67)	SI	57	3	0	57	3	0	56	4	0	55	5	5	54*	6	5	NP	NP	0
S1-273	Alt5-NB-17/18/24	Residential	3	Tern Place	45	50	58	8	13	B (67)	SI	56	2	0	56	2	0	55	3	0	54	4	0	54*	4	0	NP	NP	0
S1-274	Alt5-NB-17/18/24	Residential	3	Tern Place	46	51	60	9	14	B (67)	SI	58	2	0	57	3	0	57	3	0	56	4	0	55*	5	3	NP	NP	0
S1-275	Alt5-NB-17/18/24	Residential	5	Sandgrouse Lane	47	52	60	8	13	B (67)	SI	57	3	0	57	3	0	56	4	0	55	5	5	55*	5	5	NP	NP	0
S1-276	Alt5-NB-17/18/24	Residential	5	Sandgrouse Lane	50	55	59	4	9	B (67)	--	58	1	0	57	2	0	57	2	0	57	2	0	57*	2	0	NP	NP	0
S1-277	Alt5-NB-17/18/24	Residential	4	Sandgrouse Lane	47	52	58	6	11	B (67)	--	57	1	0	57	1	0	56	2	0	56	2	0	56*	2	0	NP	NP	0
S1-278	Alt5-NB-17/18/24	Residential	3	Barn Owl Drive	52	57	60	3	8	B (67)	--	60	0	0	60	0	0	59	1	0	59	1	0	59*	1	0	NP	NP	0
S1-279	Alt5-NB-17/18/24	Residential	3	Barn Owl Drive	52	57	60	3	8	B (67)	--	60	0	0	59	1	0	59	1	0	59	1	0	59*	1	0	NP	NP	0
S1-280	Alt5-NB-17/18/24	Residential	3	Barn Owl Drive	53	58	60	2	7	B (67)	--	60	0	0	59	1	0	59	1	0	59	1	0	59*	1	0	NP	NP	0
S1-281	Alt5-NB-17/18/24	Residential	1	Barn Owl Drive	54	59	60	1	6	B (67)	--	59	1	0	59	1	0	59	1	0	58	2	0	58*	2	0	NP	NP	0
S1-282	Alt5-NB-17/18/24	Residential	1	Barn Owl Drive	53	58	62	4	9	B (67)	--	60	2	0	60	2	0	60	2	0	59	3	0	59*	3	0	NP	NP	0
S1-283	Alt5-NB-17/18/24	Residential	1	Barn Owl Drive	53	58	62	4	9	B (67)	--	61	1	0	60	2	0	60	2	0	60	2	0	59*	3	0	NP	NP	0
S1-284	Alt5-NB-21/22/27	Residential	1	Toliver Road	45	49	60	11	15	B (67)	SI	59	1	0	58	2	0	58	2	0	57*	3	0	57	3	0	NP	NP	0
S1-284a	Alt5-NB-21/22/27	Residential	1	Toliver Road	48	51	61	10	13	B (67)	SI	60	1	0	59	2	0	59	2	0	58*	3	0	58	3	0	NP	NP	0
S1-285	Alt5-NB-21/22/27	Residential	2	Evans Road	63	65	**67**	2	4	B (67)	A/E	**67**	0	0	**67**	0	0	**66**	1	0	**66***	1	0	**66**	1	0	NP	NP	0
S1-286		Park	2[2]	Evans Road	57	61	61	0	4	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-287	Alt5-NB-23/24	Residential	1	Old Evans Road	56	61	63	2	7	B (67)	--	62	1	0	62	1	0	62	1	0	62	1	0	61	2	0	NP	NP	0
S1-288	Alt5-NB-23/24	Residential	1	Old Evans Road	46	51	64	13	18	B (67)	SI	62	2	0	61	3	0	60	4	0	58	6	1	57	7	1	NP	NP	0
S1-289	Alt5-NB-23/24	Residential	1	Eureka Avenue	37	44	64	20	27	B (67)	SI	61	3	0	60	4	0	59	5	1	57	7	1	57	7	1	NP	NP	0
S1-290	Alt5-NB-25	Residential	4	Future McCanna Hills	40	40	56	16	16	B (67)	SI	56	0	0	56	0	0	55	1	0	55	1	0	55	1	0	54	2	0
S1-291	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	58	18	18	B (67)	SI	57	1	0	57	1	0	57	1	0	56	2	0	56	2	0	56	2	0
S1-292	Alt5-NB-25	Residential	4	Future McCanna Hills	40	40	58	18	18	B (67)	SI	57	1	0	57	1	0	56	2	0	56	2	0	56	2	0	55	3	0

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-293	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	63	23	23	B (67)	SI	60	3	0	59	4	0	58	5	3	57	6	3	57	6	3	56	7	3
S1-294	Alt5-NB-25	Residential	4	Future McCanna Hills	40	40	56	16	16	B (67)	SI	56	0	0	56	0	0	56	0	0	56	0	0	56	0	0	56	0	0
S1-295	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	53	13	13	B (67)	SI	53	0	0	53	0	0	53	0	0	53	0	0	53	0	0	53	0	0
S1-296	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	51	11	11	B (67)	--	51	0	0	51	0	0	51	0	0	51	0	0	51	0	0	51	0	0
S1-297	Alt5-NB-25	Residential	2	Future McCanna Hills	40	40	55	15	15	B (67)	SI	54	1	0	53	2	0	53	2	0	53	2	0	53	2	0	53	2	0
S1-298	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	57	17	17	B (67)	SI	55	2	0	55	2	0	55	2	0	54	3	0	54	3	0	54	3	0
S1-299	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	56	16	16	B (67)	SI	53	3	0	53	3	0	53	3	0	52	4	0	52	4	0	52	4	0
S1-300	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	50	10	10	B (67)	--	50	0	0	50	0	0	50	0	0	50	0	0	50	0	0	50	0	0
S1-301	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	58	18	18	B (67)	SI	57	1	0	56	2	0	56	2	0	55	3	0	55	3	0	54	4	0
S1-302	Alt5-NB-25	Residential	2	Future McCanna Hills	40	40	56	16	16	B (67)	SI	55	1	0	54	2	0	54	2	0	54	2	0	53	3	0	53	3	0
S1-303	Alt5-NB-25	Residential	2	Future McCanna Hills	40	40	55	15	15	B (67)	SI	54	1	0	53	2	0	53	2	0	53	2	0	52	3	0	52	3	0
S1-304	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	53	13	13	B (67)	SI	52	1	0	52	1	0	52	1	0	51	2	0	51	2	0	51	2	0
S1-305	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	53	13	13	B (67)	SI	51	2	0	51	2	0	51	2	0	51	2	0	51	2	0	51	2	0
S1-306	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	48	8	8	B (67)	--	48	0	0	48	0	0	48	0	0	48	0	0	48	0	0	48	0	0
S1-307	Alt5-NB-25	Residential	2	Future McCanna Hills	40	40	50	10	10	B (67)	--	50	0	0	50	0	0	50	0	0	50	0	0	50	0	0	50	0	0
S1-308	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	52	12	12	B (67)	SI	51	1	0	51	1	0	51	1	0	51	1	0	50	2	0	50	2	0
S1-309	Alt5-NB-25	Residential	3	Future McCanna Hills	40	40	50	10	10	B (67)	--	50	0	0	50	0	0	50	0	0	50	0	0	50	0	0	50	0	0
S1-310		School	1[2]	Sherman Road	41	46	47	1	6	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-311		School	6[2]	Sherman Road	41	46	48	2	7	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-312		School	1	Walnut Street	46	51	49	-2	3	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-312a		School	7	Walnut Street	51	56	54	-2	3	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-313		School	6[2]	Walnut Street	55	60	60	0	5	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-314		Residential	3	Cayenne Way	50	55	54	-1	4	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-315		Residential	3	Cayenne Way	48	52	52	0	4	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-316		Residential	3	Cayenne Way	47	52	51	-1	4	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-316a		Residential	7	Cayenne Way	44	49	49	0	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S1-317a	Alt5-NB-26/27	Residential	1	Evans Road	56	61	59	-2	3	B (67)	--	55	4	0	55	4	0	55	4	0	55	4	0	55*	4	0	NP	NP	0
S1-317	Alt5-NB-26/27	Residential	1	Evans Road	55	58	64	6	9	B (67)	--	63	1	0	63	1	0	63	1	0	62	2	0	62*	2	0	NP	NP	0
S1-318	Alt5-NB-26/27	Residential	1	Toliver Road	48	53	64	11	16	B (67)	SI	63	1	0	62	2	0	61	3	0	60	4	0	60*	4	0	NP	NP	0
S1-319	Alt5-NB-26/27	Residential	2	Toliver Road	46	51	64	13	18	B (67)	SI	62	2	0	61	3	0	60	4	0	59	5	2	58*	6	2	NP	NP	0
S1-320	Alt5-NB-26/27	Residential	2	Toliver Road	47	51	61	10	14	B (67)	SI	59	2	0	58	3	0	58	3	0	57	4	0	57*	4	0	NP	NP	0
S1-321	Alt5-NB-26/27	Residential	2	Toliver Road	43	48	60	12	17	B (67)	SI	57	3	0	57	3	0	56	4	0	55	5	2	55*	5	2	NP	NP	0
S1-322	Alt5-NB-26/27	Residential	1	El Nido Avenue	41	49	62	13	21	B (67)	SI	59	3	0	58	4	0	57	5	1	56	6	1	55*	7	1	NP	NP	0
S1-323	Alt5-NB-26/27	Residential	1	Toliver Road	42	49	62	13	20	B (67)	SI	60	2	0	59	3	0	58	4	0	57	5	1	56*	6	1	NP	NP	0
S1-324	Alt5-NB-26/27	Residential	1	El Nido Avenue	41	48	62	14	21	B (67)	SI	59	3	0	58	4	0	57	5	1	56	6	1	55*	7	1	NP	NP	0
S1-325	Alt5-NB-26/27	Residential	1	El Nido Avenue	39	49	62	13	23	B (67)	SI	59	3	0	58	4	0	57	5	1	56	6	1	55*	7	1	NP	NP	0
S1-326	Alt5-NB-26/27	Residential	1	El Nido Avenue	39	48	62	14	23	B (67)	SI	58	4	0	57	5	1	56	6	1	55	7	1	54*	8	1	NP	NP	0
S1-327	Alt5-NB-26/27	Residential	1	Eureka Avenue	41	55	64	9	23	B (67)	SI	61	3	0	60	4	0	58	6	1	57	7	1	57*	7	1	NP	NP	0
S1-328	Alt5-NB-26/27	Residential	1	Eureka Avenue	39	49	63	14	24	B (67)	SI	60	3	0	59	4	0	58	5	1	56	7	1	56*	7	1	NP	NP	0
S1-329	Alt5-NB-26/27	Residential	1	Eureka Avenue	38	47	63	16	25	B (67)	SI	59	4	0	59	4	0	57	6	1	56	7	1	55*	8	1	NP	NP	0
S1-330	Alt5-NB-26/27	Residential	1	Eureka Avenue	37	46	**67**	21	30	B (67)	A/E	61	6	1	60	7	1	59	8	1	58	9	1	57*	10	1	NP	NP	0
S1-331	Alt5-NB-26/27	Residential	1	Eureka Avenue	34	45	64	19	30	B (67)	SI	60	4	0	59	5	1	57	7	1	56	8	1	55*	9	1	NP	NP	0
S1-332	Alt5-NB-26/27	Residential	1	Eureka Avenue	37	45	65	20	28	B (67)	SI	61	4	0	60	5	1	58	7	1	57	8	1	56*	9	1	NP	NP	0
S1-333	Alt5-NB-26/27	Residential	1	Eureka Avenue	39	46	**66**	20	27	B (67)	SI	62	4	0	61	5	1	60	6	1	59	7	1	57*	9	1	NP	NP	0

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-333a	Alt5-NB-26/27	Residential	1	Eureka Avenue	36	42	59	17	23	B (67)	SI	56	3	0	56	3	0	55	4	0	54	5	1	53*	6	1	NP	NP	0
S1-334	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	**67**	30	30	B (67)	A/E	62	5	3	62	5	3	62	5	3	62	5	3	62	5	3	62	5	3
S1-335	Alt5-NB-28	Residential	2	Future McCanna Hills	37	37	59	22	22	B (67)	SI	59	0	0	59	0	0	58	1	0	58	1	0	58	1	0	57	2	0
S1-336	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	59	22	22	B (67)	SI	59	0	0	58	1	0	58	1	0	58	1	0	57	2	0	57	2	0
S1-337	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	55	18	18	B (67)	SI	55	0	0	55	0	0	55	0	0	55	0	0	55	0	0	54	1	0
S1-338	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	54	17	17	B (67)	SI	54	0	0	54	0	0	54	0	0	54	0	0	54	0	0	54	0	0
S1-339	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	57	20	20	B (67)	SI	57	0	0	57	0	0	56	1	0	56	1	0	55	2	0	55	2	0
S1-340	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	64	27	27	B (67)	SI	61	3	0	61	3	0	60	4	0	59	5	3	59	5	3	58	6	3
S1-341	Alt5-NB-28	Residential	2	Future McCanna Hills	37	37	**69**	32	32	B (67)	A/E	63	6	2	62	7	2	61	8	2	60	9	2	60	9	2	59	10	2
S1-342	Alt5-NB-28	Residential	2	Future McCanna Hills	37	37	64	27	27	B (67)	SI	63	1	0	63	1	0	63	1	0	63	1	0	63	1	0	63	1	0
S1-343	Alt5-NB-28	Residential	2	Future McCanna Hills	37	37	60	23	23	B (67)	SI	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0
S1-344	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	60	23	23	B (67)	SI	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0
S1-345	Alt5-NB-28	Residential	4	Future McCanna Hills	37	37	59	22	22	B (67)	SI	58	1	0	58	1	0	58	1	0	58	1	0	58	1	0	58	1	0
S1-346	Alt5-NB-28	Residential	6	Future McCanna Hills	37	37	58	21	21	B (67)	SI	56	2	0	56	2	0	56	2	0	56	2	0	56	2	0	56	2	0
S1-347	Alt5-NB-28	Residential	6	Future McCanna Hills	37	37	57	20	20	B (67)	SI	56	1	0	56	1	0	56	1	0	56	1	0	56	1	0	56	1	0
S1-348	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	56	19	19	B (67)	SI	55	1	0	55	1	0	55	1	0	55	1	0	55	1	0	55	1	0
S1-349	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	55	18	18	B (67)	SI	54	1	0	54	1	0	54	1	0	54	1	0	54	1	0	54	1	0
S1-350	Alt5-NB-28	Residential	2	Future McCanna Hills	37	37	56	19	19	B (67)	SI	55	1	0	55	1	0	54	2	0	54	2	0	54	2	0	54	2	0
S1-351	Alt5-NB-28	Residential	3	Future McCanna Hills	37	37	57	20	20	B (67)	SI	56	1	0	56	1	0	56	1	0	55	2	0	55	2	0	55	2	0
S1-352	Alt5-NB-28	Residential	2	Future McCanna Hills	37	37	57	20	20	B (67)	SI	56	1	0	56	1	0	56	1	0	55	2	0	55	2	0	55	2	0
S1-353	Alt5-NB-28	Residential	2	Future McCanna Hills	37	37	54	17	17	B (67)	SI	53	1	0	53	1	0	53	1	0	53	1	0	53	1	0	53	1	0
S1-354	Alt5-NB-28	Residential	2	Future McCanna Hills	37	37	55	18	18	B (67)	SI	54	1	0	54	1	0	54	1	0	54	1	0	54	1	0	54	1	0
S1-354a		Vacant	1	South of Future Build Alternative	37	37	47	10	10	G	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-1	Alt5-NB-41/42	Residential	3	Future Stoneridge	41	46	60	14	19	B (67)	SI	57	3	0	57	3	0	56	4	0	55	5	3	54*	6	3	NP	NP	0
S2-2	Alt5-NB-41/42	Residential	3	Future Stoneridge	41	46	60	14	19	B (67)	SI	57	3	0	56	4	0	55	5	3	54	6	3	54*	6	3	NP	NP	0
S2-3	Alt5-NB-41/42	Residential	3	Future Stoneridge	42	47	60	13	18	B (67)	SI	56	4	0	56	4	0	55	5	3	54	6	3	53*	7	3	NP	NP	0
S2-4	Alt5-NB-41/42	Residential	3	Future Stoneridge	42	47	60	13	18	B (67)	SI	56	4	0	56	4	0	55	5	3	54	6	3	53*	7	3	NP	NP	0
S2-5	Alt5-NB-41/42	Residential	3	Future Stoneridge	42	47	59	12	17	B (67)	SI	56	3	0	55	4	0	54	5	3	53	6	3	53*	6	3	NP	NP	0
S2-6	Alt5-NB-41/42	Residential	3	Future Stoneridge	42	47	59	12	17	B (67)	SI	56	3	0	56	3	0	55	4	0	54	5	3	54*	5	3	NP	NP	0
S2-7	Alt5-NB-41/42	Residential	3	Future Stoneridge	42	47	58	11	16	B (67)	SI	56	2	0	55	3	0	54	4	0	54	4	0	53*	5	3	NP	NP	0
S2-8	Alt5-NB-41/42	Residential	3	Future Stoneridge	43	48	58	10	15	B (67)	SI	55	3	0	55	3	0	54	4	0	53	5	3	53*	5	3	NP	NP	0
S2-9	Alt5-NB-41/42	Residential	3	Future Stoneridge	42	48	57	9	15	B (67)	SI	55	2	0	54	3	0	53	4	0	53	4	0	52*	5	3	NP	NP	0
S2-10	Alt5-NB-41/42	Residential	3	Future Stoneridge	43	48	57	9	14	B (67)	SI	55	2	0	54	3	0	53	4	0	53	4	0	52*	5	3	NP	NP	0
S2-11	Alt5-NB-41/42	Residential	3	Future Stoneridge	43	48	57	9	14	B (67)	SI	55	2	0	54	3	0	53	4	0	53	4	0	52*	5	3	NP	NP	0
S2-12	Alt5-NB-41/42	Residential	2	Future Stoneridge	41	46	57	11	16	B (67)	SI	54	3	0	54	3	0	53	4	0	52	5	2	52*	5	2	NP	NP	0
S2-13	Alt5-NB-41/42	Residential	3	Future Stoneridge	41	47	56	9	15	B (67)	SI	53	3	0	53	3	0	52	4	0	51	5	3	51*	5	3	NP	NP	0
S2-14	Alt5-NB-41/42	Residential	3	Future Stoneridge	41	47	56	9	15	B (67)	SI	53	3	0	53	3	0	52	4	0	51	5	3	51*	5	3	NP	NP	0
S2-15	Alt5-NB-41/42	Residential	3	Future Stoneridge	42	47	56	9	14	B (67)	SI	53	3	0	53	3	0	52	4	0	51	5	3	50*	6	3	NP	NP	0
S2-16		Residential	3	Future Community Southwest	43	48	50	2	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-17		Residential	4	Future Community Southwest	44	49	52	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-18		Residential	3	Future Community Southwest	46	51	54	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-19		Residential	4	Future Community Southwest	47	52	56	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-20		Residential	2	Future Community Southwest	49	54	59	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-21		Residential	3	Future Community Southwest	51	55	60	5	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-22		Residential	4	Future Community Southwest	51	55	59	4	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-23		Residential	3	Future Community Southwest	43	48	51	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-24		Residential	5	Future Community Southwest	45	50	53	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-25		Residential	5	Future Community Southwest	47	52	55	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-26		Residential	3	Future Community Southwest	49	53	57	4	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-27	Alt5-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	59	2	0	58	3	0	57	4	0	56*	5	3	55	6	3	NP	NP	0
S2-28	Alt5-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	58	3	0	58	3	0	56	5	3	55*	6	3	54	7	3	NP	NP	0
S2-29	Alt5-NB-43	Residential	2	Future Community Southwest	51	55	61	6	10	B (67)	--	58	3	0	58	3	0	56	5	2	55*	6	2	54	7	2	NP	NP	0
S2-30	Alt5-NB-43	Residential	4	Future Community Southwest	48	53	56	3	8	B (67)	--	55	1	0	55	1	0	54	2	0	53*	3	0	53	3	0	NP	NP	0
S2-31	Alt5-NB-43	Residential	1	Future Community Southwest	48	53	58	5	10	B (67)	--	56	2	0	56	2	0	55	3	0	53*	5	1	52	6	1	NP	NP	0
S2-32	Alt5-NB-43	Residential	3	Future Community Southwest	49	54	59	5	10	B (67)	--	58	1	0	57	2	0	56	3	0	54*	5	3	53	6	3	NP	NP	0
S2-33	Alt5-NB-43	Residential	3	Future Community Southwest	51	56	63	7	12	B (67)	SI	60	3	0	59	4	0	58	5	3	56*	7	3	55	8	3	NP	NP	0
S2-34	Alt5-NB-43	Residential	3	Future Community Southwest	50	55	63	8	13	B (67)	SI	59	4	0	59	4	0	58	5	3	55*	8	3	55	8	3	NP	NP	0
S2-35	Alt5-NB-43	Residential	3	Future Community Southwest	47	51	58	7	11	B (67)	--	55	3	0	54	4	0	53	5	3	51*	7	3	51	7	3	NP	NP	0
S2-36	Alt5-NB-43	Residential	3	Future Community Southwest	48	53	61	8	13	B (67)	SI	58	3	0	57	4	0	56	5	3	54*	7	3	53	8	3	NP	NP	0
S2-37	Alt5-NB-43	Residential	5	Future Community Southwest	47	52	59	7	12	B (67)	SI	56	3	0	55	4	0	54	5	5	52*	7	5	51	8	5	NP	NP	0
S2-38	Alt5-NB-43	Residential	5	Future Community Southwest	52	57	**69**	12	17	B (67)	SI	63	6	5	62	7	5	60	9	5	58*	11	5	57	12	5	NP	NP	0
S2-39	Alt5-NB-43	Residential	3	Future Community Southwest	52	57	**66**	9	14	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-40	Alt5-NB-43	Residential	3	Future Community Southwest	52	57	**67**	10	15	B (67)	SI	63	4	0	62	5	3	59	8	3	58*	9	3	57	10	3	NP	NP	0
S2-41	Alt5-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	15	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-42	Alt5-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	15	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-43	Alt5-NB-43	Residential	3	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	3	58	7	3	57*	8	3	56	9	3	NP	NP	0
S2-44	Alt5-NB-43	Residential	2	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	2	58	7	2	57*	8	2	56	9	2	NP	NP	0
S2-45	Alt5-NB-43	Residential	4	Future Community Southwest	51	56	**66**	10	15	B (67)	SI	62	4	0	61	5	4	58	8	4	57*	9	4	56	10	4	NP	NP	0
S2-46	Alt5-NB-43	Residential	5	Future Community Southwest	49	54	63	9	14	B (67)	SI	59	4	0	58	5	5	56	7	5	55*	8	5	54	9	5	NP	NP	0
S2-47	Alt5-NB-43	Residential	4	Future Community Southwest	49	54	61	7	12	B (67)	SI	58	3	0	57	4	0	55	6	4	54*	7	4	53	8	4	NP	NP	0
S2-48	Alt5-NB-43	Residential	5	Future Community Southwest	48	53	61	8	13	B (67)	SI	57	4	0	57	4	0	54	7	5	53*	8	5	53	8	5	NP	NP	0
S2-49	Alt5-NB-43	Residential	3	Future Community Southwest	47	52	60	8	13	B (67)	SI	57	3	0	56	4	0	54	6	3	53*	7	3	52	8	3	NP	NP	0
S2-50	Alt5-NB-43	Residential	3	Future Community Southwest	46	51	59	8	13	B (67)	SI	56	3	0	56	3	0	53	6	3	52*	7	3	52	7	3	NP	NP	0
S2-51	Alt5-NB-43	Residential	2	Future Community Southwest	51	55	65	10	14	B (67)	SI	61	4	0	59	6	2	57	8	2	56*	9	2	56	9	2	NP	NP	0
S2-52	Alt5-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	58	5	4	57	6	4	55	8	4	54*	9	4	53	10	4	NP	NP	0
S2-53	Alt5-NB-43	Residential	3	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0
S2-54	Alt5-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	4	56	7	4	55*	8	4	54	9	4	NP	NP	0
S2-55	Alt5-NB-43	Residential	3	Future Community Southwest	49	53	63	10	14	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0
S2-56	Alt5-NB-43	Residential	5	Future Community Southwest	47	52	64	12	17	B (67)	SI	59	5	5	58	6	5	56	8	5	55*	9	5	54	10	5	NP	NP	0
S2-57		Park	12[2]	Future The Villages of Lakeview	52	57	59	2	7	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-58		Residential	8[2]	Future The Villages of Lakeview	52	57	57	0	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-59	Alt5-NB-44	Residential	8[2]	Future The Villages of Lakeview	53	57	63	6	10	B (67)	--	61	2	0	60	3	0	60	3	0	59	4	0	58	5	8	NP	NP	0
S2-60	Alt5-NB-44	Residential	8[2]	Future The Villages of Lakeview	52	57	64	7	12	B (67)	SI	61	3	0	60	4	0	59	5	8	58	6	8	58	6	8	NP	NP	0
S2-61	Alt5-NB-44	Residential	1	Future The Villages of Lakeview	56	60	**67**	7	11	B (67)	A/E	63	4	0	62	5	1	61	6	1	60	7	1	59	8	1	NP	NP	0
S2-62	Alt5-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	60	**71**	11	16	B (67)	SI	64	7	6	63	8	6	62	9	6	61	10	6	60	11	6	NP	NP	0
S2-63	Alt5-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	**70**	9	15	B (67)	SI	64	6	6	63	7	6	61	9	6	60	10	6	59	11	6	NP	NP	0
S2-64	Alt5-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	**68**	7	13	B (67)	SI	63	5	6	62	6	6	60	8	6	59	9	6	58	10	6	NP	NP	0
S2-65	Alt5-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	**68**	7	13	B (67)	SI	63	5	6	61	7	6	60	8	6	59	9	6	59	9	6	NP	NP	0

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-66	Alt5-NB-44	Residential	15[2]	Future The Villages of Lakeview	56	61	**70**	9	14	B (67)	SI	65	5	15	64	6	15	62	8	15	61	9	15	60	10	15	NP	NP	0
S2-67		Residential	1	Reservoir Avenue	44	49	54	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-68		Commercial	1	Reservoir Avenue	57	62	71	9	14	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-68a	Alt5-NB-45	Residential	1	Palm Avenue	48	52	58	6	10	B (67)	--	58	0	0	58	0	0	58	0	0	58	0	0	57*	1	0	NP	NP	0
S2-69	Alt5-NB-45	Residential	1	Reservoir Avenue	49	54	63	9	14	B (67)	SI	63	0	0	62	1	0	61	2	0	60	3	0	59*	4	0	NP	NP	0
S2-70	Alt5-NB-45	Residential	1	Magnolia Avenue	57	62	**73**	11	16	B (67)	SI	**69**	4	0	**67**	6	1	65	8	1	63	10	1	62*	11	1	NP	NP	0
S2-71	Alt5-NB-45	School	1[2]	Magnolia Avenue	59	63	**73**	10	14	C (67)	SI	**69**	4	0	**67**	6	1	65	8	1	63	10	1	62*	11	1	NP	NP	0
S2-72	Alt5-NB-45	Residential	3	Magnolia Avenue	52	57	**67**	10	15	B (67)	SI	65	2	0	63	4	0	62	5	3	60	7	3	59*	8	3	NP	NP	0
S2-73	Alt5-NB-45	Residential	2	Magnolia Avenue	54	59	65	6	11	B (67)	--	64	1	0	62	3	0	61	4	0	60	5	2	59*	6	2	NP	NP	0
S2-74	Alt5-NB-45	Residential	2	Date Street	54	59	65	6	11	B (67)	--	64	1	0	63	2	0	62	3	0	61	4	0	60*	5	2	NP	NP	0
S2-75	Alt5-NB-45	Residential	1	Date Street	51	56	62	6	11	B (67)	--	61	1	0	60	2	0	59	3	0	58	4	0	58*	4	0	NP	NP	0
S2-76		Commercial	1	Reservoir Avenue	65	70	74	4	9	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-77	Alt5-NB-45	Sports Field	7[2]	Hansen Avenue	57	57	62	5	5	C (67)	--	59	3	0	58	4	0	57	5	7	56	6	7	56*	6	7	NP	NP	0
S2-77a	Alt5-NB-45	Residential	1	Orange Street	42	47	55	8	13	B (67)	SI	51	4	0	51	4	0	50	5	1	49	6	1	49*	6	1	NP	NP	0
S2-78	Alt5-NB-45	Park	10[2]	Future The Villages of Lakeview	51	56	**67**	11	16	C (67)	SI	62	5	10	61	6	10	60	7	10	58	9	10	57*	10	10	NP	NP	0
S2-79	Alt5-NB-45	Residential	15[2]	Future The Villages of Lakeview	47	52	62	10	15	B (67)	SI	58	4	0	57	5	15	57	5	15	55	7	15	55*	7	15	NP	NP	0
S2-80	Alt5-NB-46	Residential	1	Ramona Expressway	59	65	**73**	8	14	B (67)	SI	**67**	6	1	**66**	7	1	65	8	1	63	10	1	62	11	1	NP	NP	0
S2-81	Alt5-NB-46	Residential	1	Ramona Expressway	51	55	64	9	13	B (67)	SI	60	4	0	60	4	0	59	5	1	58	6	1	57	7	1	NP	NP	0
S2-82	Alt5-NB-46	Residential	1	Ramona Expressway	48	52	60	8	12	B (67)	SI	56	4	0	56	4	0	55	5	1	54	6	1	54	6	1	NP	NP	0
S2-83	Alt5-NB-46	Residential	1	Ramona Expressway	52	57	65	8	13	B (67)	SI	62	3	0	61	4	0	60	5	1	59	6	1	58	7	1	NP	NP	0
S2-84	Alt5-NB-46	Residential	1	Ramona Expressway	52	58	**67**	9	15	B (67)	SI	62	5	1	61	6	1	60	7	1	58	9	1	57	10	1	NP	NP	0
S2-85	Alt5-NB-46	Residential	1	Ramona Expressway	48	53	63	10	15	B (67)	SI	59	4	0	58	5	1	58	5	1	56	7	1	55	8	1	NP	NP	0
S2-86		Residential	9[2]	Future Motte Ranch	46	51	57	6	11	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-87		Residential	9[2]	Future Motte Ranch	51	56	61	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-88		Agricultural	1	Ramona Expressway	52	58	62	4	10	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-89	Alt5-NB-47	Residential	10[2]	Future The Villages of Lakeview	55	59	**72**	13	17	B (67)	SI	**72**	0	0	**70**	2	0	**68**	4	0	**66**	6	10	64	8	10	NP	NP	0
S2-90	Alt5-NB-47	Residential	10[2]	Future The Villages of Lakeview	56	61	**74**	13	18	B (67)	SI	**68**	6	10	**67**	7	10	**66**	8	10	63	11	10	62	12	10	NP	NP	0
S2-91	Alt5-NB-47	Residential	12[2]	Future The Villages of Lakeview	55	60	**74**	14	19	B (67)	SI	**70**	4	0	**68**	6	12	**67**	7	12	64	10	12	63	11	12	NP	NP	0
S2-92	Alt5-NB-47	Residential	8[2]	Future The Villages of Lakeview	54	60	**73**	13	19	B (67)	SI	**72**	1	0	**71**	2	0	**69**	4	0	**67**	6	8	65	8	8	NP	NP	0
S2-93	Alt5-NB-47	Residential	10[2]	Future The Villages of Lakeview	50	55	**67**	12	17	B (67)	SI	63	4	0	62	5	10	61	6	10	60	7	10	59	8	10	NP	NP	0
S2-94	Alt5-NB-48	Residential	8[2]	Future The Villages of Lakeview	55	60	**72**	12	17	B (67)	SI	**71**	1	0	**69**	3	0	**68**	4	0	**66**	6	8	65*	7	8	NP	NP	0
S2-95	Alt5-NB-48	Residential	6[2]	Future The Villages of Lakeview	57	62	**75**	13	18	B (67)	SI	**70**	5	6	**69**	6	6	**68**	7	6	**66**	9	6	65*	10	6	NP	NP	0
S2-96	Alt5-NB-48	Residential	6[2]	Future The Villages of Lakeview	57	62	**76**	14	19	B (67)	A/E	**70**	6	6	**68**	8	6	**67**	9	6	65	11	6	64*	12	6	NP	NP	0
S2-97	Alt5-NB-48	Residential	7[2]	Future The Villages of Lakeview	56	62	**75**	13	19	B (67)	SI	**69**	6	7	**67**	8	7	**66**	9	7	64	11	7	63*	12	7	NP	NP	0
S2-98	Alt5-NB-48	Residential	9[2]	Future The Villages of Lakeview	56	62	**76**	14	20	B (67)	A/E	**69**	7	9	**68**	8	9	**67**	9	9	64	12	9	63*	13	9	NP	NP	0
S2-99	Alt5-NB-48	Residential	16[2]	Future The Villages of Lakeview	56	61	**73**	12	17	B (67)	SI	**70**	3	0	**69**	4	0	**68**	5	16	**66**	7	16	64*	9	16	NP	NP	0
S2-99a		Residential	1	Ramona Expressway	38	49	49	0	11	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-1a		Agricultural	1	Ramona Expressway	48	53	63	10	15	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-1	Alt5-NB-49	Residential	1	Ramona Expressway	56	61	**69**	8	13	B (67)	SI	63	6	1	62	7	1	60	9	1	58*	11	1	57	12	1	NP	NP	0
S3-2	Alt5-NB-49	Residential	1	Ramona Expressway	45	50	58	8	13	B (67)	SI	54	4	0	53	5	1	53	5	1	52*	6	1	51	7	1	NP	NP	0
S3-3	Alt5-NB-49	Residential	1	Ramona Expressway	47	52	60	8	13	B (67)	SI	56	4	0	55	5	1	54	6	1	53*	7	1	52	8	1	NP	NP	0
S3-4	Alt5-NB-49	Residential	1	Ramona Expressway	47	52	61	9	14	B (67)	SI	56	5	1	55	6	1	55	6	1	54*	7	1	53	8	1	NP	NP	0
S3-5	Alt5-NB-50	Residential	1	Warren Road	46	49	59	10	13	B (67)	SI	55	4	0	52*	7	1	50	9	1	49	10	1	48	11	1	48	11	1
S3-6	Alt5-NB-51	Residential	1	Warren Road	46	49	60	11	14	B (67)	SI	59	1	0	57	3	0	55*	5	1	54	6	1	53	7	1	53	7	1

Table 3.15.R Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S3-7		Residential	1	Warren Road	51	54	57	3	6	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-8		Residential	1	Warren Road	46	48	51	3	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-9		Agricultural	1	Warren Road	58	60	64	4	6	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-10		Residential	1	Ramona Expressway	55	59	52	-7	-3	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-11		Residential	1	Sanderson Avenue	64	**68**	63	-5	-1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-12	Alt5-NB-52/53/54	Residential	1	Ramona Boulevard	48	51	65	14	17	B (67)	SI	62	3	0	61	4	0	61	4	0	60*	5	1	60	5	1	NP	NP	0
S3-13	Alt5-NB-52/53/54	Residential	1	Ramona Boulevard	46	49	62	13	16	B (67)	SI	59	3	0	59	3	0	58	4	0	57*	5	1	57	5	1	NP	NP	0

Source: *Final Noise Study Report* (January 2012).

[1] I.L.: Insertion Loss.

[2] 100 ft frontage units were used to determine the number of benefited residences for nonresidential uses.

[3] Numbers in **bold** represent noise levels that approach or exceed the NAC.

[4] The shaded areas represent those receptors that would be acquired by the proposed project under Alternative 5 Modified.

[5] NP = Not Permitted. Noise barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.

[6] A/E = Approach or exceed the NAC.

[7] Underlined noise levels have been attenuated by at least 5 dB (i.e., feasible barrier height).

[8] NF = Not feasible due to access onto the property and outdoor eating areas associated with fast-food restaurants where the expected use would be less than 1 hour and would not be considered a frequent human use area.

* Minimum height needed to break the line of sight between 11.5 ft truck stack and first-row receptors.

Negative numbers in the table are due to changing shielding effects or noise sources under Alternative 5 Modified.

Noise levels for S1-290 to S1-309, S1-334 to S1-354, and S1-354a were adopted from noise monitoring work for existing and 2040 no build conditions since no roadway currently exists.

Segment 1A: S1-1 to S1-59, representing all Build Alternatives.

Segment 1B: S1- 202a and S1-202 to S1-354, representing Alternative 5 Modified.

Segment 2: S2-1 to S2-99 and S2-99a, representing all Build Alternatives.

Segment 3: S3-1a and S3-1 to S3-13, representing all Build Alternatives.

Alt = Alternative

dB = decibels

dBA $L_{eq}(h)$ = equivalent continuous sound level per hour measured in A-weighted decibels

ft = foot/feet

NAC = Noise Abatement Criteria

NB = Noise Barrier

NBR = Number of Benefited Residences

RV = recreational vehicle

SI = A substantial increase where predicted worst-hour 2040 noise levels exceed existing worst-hour noise levels by 12 dB.

Table 3.15.S Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																								
						2040 Noise Level						Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																		
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Activity Category (NAC)	Impact Type	$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-1		Cemetery	3[2]	Van Buren Boulevard	54	55	56	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-2		Cemetery	5[2]	Van Buren Boulevard	57	58	59	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-3		Cemetery	5[2]	Van Buren Boulevard	62	63	64	1	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-4		Air Force Museum	1	Van Buren Boulevard	60	61	61	0	1	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-5a		Industrial	1	Harvill Avenue	65	66	67	1	2	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-5b	Alt9-NB-1	Residential	3	W. Oleander Avenue	59	60	61	1	2	B (67)	--	58	3	0	58	3	0	58	3	0	57*	4	0	57	4	0	NP[5]	NP	0	NP	NP	NP
S1-5c	Alt9-NB-1	Residential	1	W. Oleander Avenue	59	59	61	2	2	B (67)	--	57	4	0	57	4	0	57	4	0	56*	5	1	56	5	1	NP	NP	0	NP	NP	NP
S1-5		Commercial	1	Wade Avenue	73	74	73	-1	0	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-6		Commercial	1	Wade Avenue	67	68	72	4	5	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-7	Alt9-NB-1	Residential (RV)	1	Wade Avenue	66[3]	67	71	4	5	B (67)	A/E[6]	64[4]	7	1	63	8	1	62	9	1	61*	10	1	60	11	1	NP	NP	0	NP	NP	NP
S1-8	Alt9-NB-1	Residential (RV)	1	Wade Avenue	67	69	73	4	6	B (67)	A/E	66	7	1	64	9	1	63	10	1	61*	12	1	61	12	1	NP	NP	0	NP	NP	NP
S1-9	Alt9-NB-1	Residential (RV)	2	Wade Avenue	63	64	68	4	5	B (67)	A/E	62	6	2	61	7	2	60	8	2	58*	10	2	59	9	2	NP	NP	0	NP	NP	NP
S1-10	Alt9-NB-1	Residential (RV)	1	Wade Avenue	66	67	71	4	5	B (67)	A/E	64	7	1	64	7	1	63	8	1	61*	10	1	60	11	1	NP	NP	0	NP	NP	NP
S1-11	Alt9-NB-1	Residential (RV)	2	Wade Avenue	62	63	67	4	5	B (67)	A/E	61	6	2	61	6	2	60	7	2	58*	9	2	58	9	2	NP	NP	0	NP	NP	NP
S1-12	Alt9-NB-1	Residential (RV)	2	Wade Avenue	64	65	70	5	6	B (67)	A/E	64	6	2	63	7	2	62	8	2	60*	10	2	59	11	2	NP	NP	0	NP	NP	NP
S1-12a	Alt9-NB-1	Residential (RV)	2	Wade Avenue	63	63	67	4	4	B (67)	A/E	62	5	2	61	6	2	61	6	2	59*	8	2	59	8	2	NP	NP	0	NP	NP	NP
S1-12b	Alt9-NB-1	Residential (RV)	2	Wade Avenue	63	63	68	5	5	B (67)	A/E	62	6	2	62	6	2	61	7	2	60*	8	2	59	9	2	NP	NP	0	NP	NP	NP
S1-12c	Alt9-NB-1	Residential	1	California Street	58	59	62	3	4	B (67)	--	57	5	1	57	5	1	57	5	1	56*	6	1	55	7	1	NP	NP	0	NP	NP	NP
S1-13		Commercial	1	Wade Avenue	70	71	76	5	6	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-14	Alt9-NB-1	Residential	1	Wade Avenue	63	63	69	6	6	B (67)	A/E	62	7	1	62	7	1	61	8	1	60*	9	1	58	11	1	NP	NP	0	NP	NP	NP
S1-15	Alt9-NB-1	Residential	1	W. Nance Street	57	58	63	5	6	B (67)	--	57	6	1	57	6	1	56	7	1	55*	8	1	54	9	1	NP	NP	0	NP	NP	NP
S1-16	Alt9-NB-1	Residential	2	Wade Avenue	68	69	74	5	6	B (67)	A/E	66	8	2	65	9	2	63	11	2	60*	14	2	59	15	2	NP	NP	0	NP	NP	NP
S1-17	Alt9-NB-1	Residential	2	Wade Avenue	62	63	67	4	5	B (67)	A/E	61	6	2	60	7	2	59	8	2	57*	10	2	57	10	2	NP	NP	0	NP	NP	NP
S1-18	Alt9-NB-1	Outdoor Eating Area	1	Wade Avenue	68	69	74	5	6	E (72)	A/E	67	7	1	65	9	1	63	11	1	61*	13	1	60	14	1	NP	NP	0	NP	NP	NP
S1-19	Alt9-NB-1	Residential	2	Wade Avenue	60	61	65	4	5	B (67)	--	60	5	2	59	6	2	58	7	2	57*	8	2	56	9	2	NP	NP	0	NP	NP	NP
S1-20	Alt9-NB-1	Residential	3	Wade Avenue	61	62	66	4	5	B (67)	A/E	60	6	3	60	6	3	59	7	3	58*	8	3	57	9	3	NP	NP	0	NP	NP	NP
S1-21	Alt9-NB-1	Residential	1	Wade Avenue	62	63	67	4	5	B (67)	A/E	61	6	1	60	7	1	60	7	1	58*	9	1	57	10	1	NP	NP	0	NP	NP	NP
S1-22	Alt9-NB-1	Residential	1	Patterson Avenue	63	64	69	5	6	B (67)	A/E	66	3	0	64	5	1	63	6	1	61*	8	1	61	8	1	NP	NP	0	NP	NP	NP
S1-23		Commercial	1	Cajalco Road	71	74	76	2	5	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-24		Outdoor Eating Area	1	Cajalco Road	64	68	68	0	4	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-25		Outdoor Eating Area	1	Cajalco Road	62	65	66	1	4	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-26		Outdoor Eating Area	1	Cajalco Road	64	66	67	1	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-27a		Agriculture	1	Cajalco Road	62	65	66	1	4	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-27b		Industrial	1	Cajalco Road	70	72	74	2	4	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-27		School	2[2]	Nevada Road	58	58	60	2	2	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-28		School	1[2]	Nevada Road	58	59	61	2	3	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-29		Office	1	Morgan Street	66	66	69	3	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-30		Office	1	Webster Avenue	65	66	68	2	3	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-31		Commercial	1	Rider Street	63	64	65	1	2	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-32		Residential	2	Susan Lane	57	58	60	2	3	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-32a		Industrial	1	Rider Street	74	75	77	2	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-33		Residential	1	Susan Lane	58	58	61	3	3	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-34		Residential	1	Susan Lane	55	57	62	5	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-35		Residential	1	Hagan Lane	56	57	62	5	6	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-36		Residential	2	Hagan Lane	55	56	62	6	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-37		Residential	1	W. Placentia Avenue	56	57	69	12	13	B (67)	SI	NF[7]	NF	0	NF	NF	0	NF	NF	0	NF	NF	0	NF	NF	0	NF	NF	0	NP	NP	NP
S1-38		Residential	1	Indian Avenue	53	57	61	4	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-39		Residential	1	Indian Avenue	54	57	64	7	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-40		Residential	2	Indian Avenue	55	58	0	--[8]	--	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-41		School	6[2]	Indian Avenue	58	59	62	3	4	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-42		School	5[2]	Indian Avenue	56	58	62	4	6	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-43	Alt9-NB-2	Private Recreational	4[2]	Orange Avenue	59	60	66	6	7	C (67)	A/E	63	3	0	62	4	0	61*	5	4	60	6	4	59	7	4	59	7	4	NP	NP	NP

Table 3.15.S Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																								
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																		
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-44		Storage	1	Daytona Cove	62	63	65	2	3	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-45		Commercial	1	W. Nuevo Road	64	65	65	0	1	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-46a		Residential	6	North A Street	54	55	56	1	2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-46	Alt9-NB-3	School	1[2]	North A Street	65	67	67	0	2	C (67)	A/E	61*	6	1	58	9	1	57	10	1	55	12	1	54	13	1	53	14	1	NP	NP	NP
S1-47		Office	1	North A Street	61	62	62	0	1	E (72)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-48	Alt9-NB-4	Residential	2	Coliseum Street	64	66	66	0	2	B (67)	A/E	66	0	0	66	0	0	66	0	0	65	1	0	64	2	0	63	3	0	NP	NP	NP
S1-49	Alt9-NB-4	Residential	2	Coliseum Street	63	64	65	1	2	B (67)	--	65	0	0	64	1	0	64	1	0	62	3	0	62	3	0	61	4	0	NP	NP	NP
S1-50	Alt9-NB-4	Residential	1	Coliseum Street	64	65	65	0	1	B (67)	--	65	0	0	65	0	0	65	0	0	65	0	0	64	1	0	63	2	0	NP	NP	NP
S1-51	Alt9-NB-4	Residential	2	Fenway Lane	63	65	66	1	3	B (67)	A/E	66	0	0	66	0	0	66	0	0	65	1	0	64	2	0	63	3	0	NP	NP	NP
S1-52	Alt9-NB-4	Residential	2	Fenway Lane	63	65	65	0	2	B (67)	--	65	0	0	65	0	0	65	0	0	65	0	0	64	1	0	63	2	0	NP	NP	NP
S1-53	Alt9-NB-4	Residential	2	Coliseum Street	57	59	59	0	2	B (67)	--	59	0	0	58	1	0	58	1	0	58	1	0	57	2	0	57	2	0	NP	NP	NP
S1-54	Alt9-NB-4	Residential	2	Coliseum Street	61	63	63	0	2	B (67)	--	63	0	0	63	0	0	63	0	0	62	1	0	60	3	0	59	4	0	NP	NP	NP
S1-55	Alt9-NB-4	Residential	2	Fenway Lane	59	60	60	0	1	B (67)	--	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	60	0	0	NP	NP	NP
S1-56		Residential	2	Fenway Lane	55	56	56	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-57		Residential	4	Fenway Lane	55	56	56	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-58		Residential	4	Fenway Lane	55	56	56	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-59		Residential	2	Bowen Road	60	61	61	0	1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-355	Alt9-NB-29	Residential	1	Gaileo Place	57	60	52	-8	-5	B (67)	--	52	0	0	52*	0	0	52	0	0	52	0	0	52	0	0	52	0	0	52	0	0
S1-356	Alt9-NB-29	Residential	3	Gaileo Place	55	58	55	-3	0	B (67)	--	54	1	0	54*	1	0	54	1	0	54	1	0	54	1	0	54	1	0	54	1	0
S1-357	Alt9-NB-29	Residential	3	Gaileo Place	52	56	57	1	5	B (67)	--	56	1	0	57*	0	0	57	0	0	57	0	0	57	0	0	56	1	0	56	1	0
S1-358	Alt9-NB-29	Residential	2	Gaileo Place	51	56	65	9	14	B (67)	SI	62	3	0	61*	4	0	61	4	0	60	5	2	59	6	2	59	6	2	58	7	2
S1-359	Alt9-NB-29	Residential	1	Gaileo Place	56	58	51	-7	-5	B (67)	--	51	0	0	51*	0	0	50	1	0	50	1	0	50	1	0	50	1	0	50	1	0
S1-360	Alt9-NB-29	Residential	4	Gaileo Place	51	53	52	-1	1	B (67)	--	51	1	0	50*	2	0	50	2	0	50	2	0	50	2	0	50	2	0	50	2	0
S1-361	Alt9-NB-29	Residential	6	Gaileo Place	48	51	53	2	5	B (67)	--	51	2	0	51*	2	0	51	2	0	51	2	0	51	2	0	51	2	0	51	2	0
S1-362	Alt9-NB-29	Residential	6	Gaileo Place	46	49	55	6	9	B (67)	--	53	2	0	53*	2	0	53	2	0	53	2	0	52	3	0	52	3	0	52	3	0
S1-363	Alt9-NB-29	Residential	2	Gaileo Place	46	49	57	8	11	B (67)	--	54	3	0	54*	3	0	54	3	0	53	4	0	53	4	0	53	4	0	53	4	0
S1-364	Alt9-NB-29	Residential	4	Magellan Lane	45	49	60	11	15	B (67)	SI	57	3	0	56*	4	0	56	4	0	56	4	0	56	4	0	55	5	4	55	5	4
S1-365	Alt9-NB-29	Residential	2	Sparkler Lane	44	48	65	17	21	B (67)	SI	62	3	0	61*	4	0	61	4	0	60	5	2	59	6	2	59	6	2	58	7	2
S1-366	Alt9-NB-29	Residential	4	Magellan Lane	46	49	54	5	8	B (67)	--	52	2	0	51*	3	0	51	3	0	51	3	0	51	3	0	51	3	0	51	3	0
S1-367	Alt9-NB-29	Residential	4	Magellan Lane	44	47	56	9	12	B (67)	SI	53	3	0	52*	4	0	52	4	0	52	4	0	52	4	0	52	4	0	52	4	0
S1-368	Alt9-NB-29	Residential	4	Sparkler Lane	42	46	59	13	17	B (67)	SI	55	4	0	54*	5	4	54	5	4	54	5	4	54	5	4	54	5	4	53	6	4
S1-369	Alt9-NB-29	Residential	4	Sparkler Lane	41	45	61	16	20	B (67)	SI	57	4	0	56*	5	4	56	5	4	56	5	4	55	6	4	55	6	4	54	7	4
S1-370	Alt9-NB-29	Residential	4	Holiday Lane	41	45	63	18	22	B (67)	SI	60	3	0	59*	4	0	58	5	4	58	5	4	57	6	4	57	6	4	57	6	4
S1-371	Alt9-NB-29	Residential	4	Banner Place	43	46	56	10	13	B (67)	SI	52	4	0	52*	4	0	52	4	0	52	4	0	52	4	0	51	5	4	51	5	4
S1-372	Alt9-NB-29	Residential	3	Holiday Lane	42	45	56	11	14	B (67)	SI	53	3	0	53*	3	0	52	4	0	52	4	0	52	4	0	52	4	0	52	4	0
S1-373	Alt9-NB-29	Residential	3	Holiday Lane	41	45	57	12	16	B (67)	SI	54	3	0	54*	3	0	53	4	0	53	4	0	53	4	0	53	4	0	52	5	3
S1-374	Alt9-NB-29	Residential	4	Holiday Lane	41	45	58	13	17	B (67)	SI	55	3	0	54*	4	0	54	4	0	53	5	4	53	5	4	53	5	4	52	6	4
S1-375	Alt9-NB-29	Residential	3	Lake View Drive	41	45	60	15	19	B (67)	SI	56	4	0	55*	5	3	55	5	3	55	5	3	54	6	3	54	6	3	54	6	3
S1-376	Alt9-NB-29	Residential	1	Lake View Drive	40	44	60	16	20	B (67)	SI	57	3	0	56*	4	0	56	4	0	56	4	0	56	4	0	55	5	1	55	5	1
S1-377	Alt9-NB-29	Residential	2	Holiday Lane	42	45	56	11	14	B (67)	SI	53	3	0	52*	4	0	52	4	0	52	4	0	52	4	0	52	4	0	51	5	2
S1-378	Alt9-NB-29	Residential	3	Punta Prieta Drive	41	45	56	11	15	B (67)	SI	54	2	0	54*	2	0	53	3	0	53	3	0	53	3	0	52	4	0	52	4	0
S1-379	Alt9-NB-29	Residential	3	Lake View Drive	41	45	59	14	18	B (67)	SI	57	2	0	56*	3	0	56	3	0	55	4	0	55	4	0	54	5	3	54	5	3
S1-380	Alt9-NB-29	Residential	2	Lake View Drive	42	46	57	11	15	B (67)	SI	56	1	0	56*	1	0	56	1	0	55	2	0	55	2	0	55	2	0	54	3	0
S1-381	Alt9-NB-30	Residential	3	Chant Street	46	47	49	2	3	B (67)	--	49	0	0	49	0	0	49	0	0	49*	0	0	49	0	0	49	0	0	NP	NP	NP
S1-381a	Alt9-NB-30	Residential	11	Chant Street	41	44	48	4	7	B (67)	--	48	0	0	48	0	0	48	0	0	48*	0	0	48	0	0	48	0	0	NP	NP	NP
S1-381b	Alt9-NB-30	Residential	6	Genuine Risk Street	41	44	49	5	8	B (67)	--	49	0	0	49	0	0	49	0	0	49*	0	0	49	0	0	49	0	0	NP	NP	NP
S1-382	Alt9-NB-30	Residential	2	Genuine Risk Street	45	50	63	13	18	B (67)	SI	59	4	0	59	4	0	59	4	0	58*	5	2	58	5	2	57	6	2	NP	NP	NP
S1-383	Alt9-NB-30	Residential	4	Spectacular Bid Street	52	58	68	10	16	B (67)	SI	61	7	4	59	9	4	59	9	4	58*	10	4	58	10	4	58	10	4	NP	NP	NP
S1-384	Alt9-NB-30	Residential	3	Spectacular Bid Street	52	58	57	-1	5	B (67)	--	56	1	0	55	2	0	57	0	0	57*	0	0	56	1	0	56	1	0	NP	NP	NP
S1-385	Alt9-NB-30	Residential	2	Spectacular Bid Street	52	58	55	-3	3	B (67)	--	54	1	0	53	2	0	53	2	0	53*	2	0	53	2	0	53	2	0	NP	NP	NP
S1-386	Alt9-NB-30	Residential	2	Genuine Risk Street	44	48	56	8	12	B (67)	SI	55	1	0	55	1	0	54	2	0	54*	2	0	54	2	0	54	2	0	NP	NP	NP
S1-387	Alt9-NB-30	Residential	4	Riva Ridge Street	45	50	55	5	10	B (67)	--	55	0	0	55	0	0	55	0	0	55*	0	0	55	0	0	54	1	0	NP	NP	NP

Table 3.15.S Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-388	Alt9-NB-30	Residential	4	Genuine Risk Street	42	47	53	6	11	B (67)	--	52	1	0	52	1	0	52	1	0	52*	1	0	52	1	0	52	1	0	NP	NP	NP
S1-389	Alt9-NB-30	Residential	6	Spectacular Bid Street	43	48	51	3	8	B (67)	--	51	0	0	51	0	0	51	0	0	51*	0	0	51	0	0	51	0	0	NP	NP	NP
S1-390	Alt9-NB-30	Residential	6	Spectacular Bid Street	43	49	51	2	8	B (67)	--	51	0	0	51	0	0	51	0	0	51*	0	0	51	0	0	51	0	0	NP	NP	NP
S1-391	Alt9-NB-30	Residential	6	Spectacular Bid Street	44	50	52	2	8	B (67)	--	52	0	0	52	0	0	52	0	0	51*	1	0	51	1	0	51	1	0	NP	NP	NP
S1-392	Alt9-NB-30	Residential	3	Genuine Risk Street	43	46	52	6	9	B (67)	--	51	1	0	52	0	0	52	0	0	51*	1	0	51	1	0	51	1	0	NP	NP	NP
S1-393	Alt9-NB-30	Residential	4	Genuine Risk Street	41	46	51	5	10	B (67)	--	51	0	0	51	0	0	51	0	0	51*	0	0	51	0	0	51	0	0	NP	NP	NP
S1-394	Alt9-NB-30	Residential	3	Sunny Halo Court	39	43	48	5	9	B (67)	--	48	0	0	48	0	0	48	0	0	48*	0	0	48	0	0	48	0	0	NP	NP	NP
S1-395	Alt9-NB-30	Residential	2	Jubilee Court	42	48	64	16	22	B (67)	SI	61	3	0	60	4	0	60	4	0	59*	5	2	59	5	2	58	6	2	NP	NP	NP
S1-396	Alt9-NB-30	Residential	2	Jubilee Court	42	48	61	13	19	B (67)	SI	60	1	0	59	2	0	59	2	0	58*	3	0	58	3	0	58	3	0	NP	NP	NP
S1-397	Alt9-NB-30	Residential	2	Jubilee Court	49	55	58	3	9	B (67)	--	55	3	0	55	3	0	55	3	0	54*	4	0	54	4	0	54	4	0	NP	NP	NP
S1-398	Alt9-NB-30	Residential	2	Jubilee Court	48	54	56	2	8	B (67)	--	54	2	0	54	2	0	54	2	0	54*	2	0	54	2	0	54	2	0	NP	NP	NP
S1-399	Alt9-NB-30	Residential	2	Jubilee Court	49	55	56	1	7	B (67)	--	54	2	0	54	2	0	54	2	0	54*	2	0	54	2	0	54	2	0	NP	NP	NP
S1-400	Alt9-NB-30	Residential	3	Jubilee Court	50	56	57	1	7	B (67)	--	56	1	0	56	1	0	56	1	0	56*	1	0	56	1	0	56	1	0	NP	NP	NP
S1-401	Alt9-NB-30	Park	3[2]	Placentia Avenue	59	65	54	-11	-5	C (67)	--	54	0	0	54	0	0	54	0	0	54*	0	0	54	0	0	53	1	0	NP	NP	NP
S1-402	Alt9-NB-30	Residential	3	Lake View Drive	44	50	58	8	14	B (67)	SI	57	1	0	57	1	0	56	2	0	56*	2	0	56	2	0	56	2	0	NP	NP	NP
S1-403	Alt9-NB-30	Residential	2	Lake View Drive	46	52	57	5	11	B (67)	--	57	0	0	57	0	0	57	0	0	56*	1	0	56	1	0	56	1	0	NP	NP	NP
S1-404	Alt9-NB-31/32/33	Residential	1	Redlands Avenue	49	56	65	9	16	B (67)	SI	64	1	0	64	1	0	64	1	0	63	2	0	63	2	0	NP	NP	0	NP	NP	NP
S1-405	Alt9-NB-31/32/33	Residential	1	Redlands Avenue	47	54	61	7	14	B (67)	SI	60	1	0	60	1	0	60	1	0	60	1	0	60	1	0	NP	NP	0	NP	NP	NP
S1-405a	Alt9-NB-31/32/33	Residential	1	Wilson Avenue	43	47	58	11	15	B (67)	SI	55	3	0	55	3	0	55	3	0	54	4	0	54	4	0	NP	NP	0	NP	NP	NP
S1-405b	Alt9-NB-31/32/33	Residential	1	Wilson Avenue	44	50	59	9	15	B (67)	SI	56	3	0	56	3	0	55	4	0	54	5	1	54	5	1	NP	NP	0	NP	NP	NP
S1-406	Alt9-NB-31/32/33	Residential	1	Wilson Avenue	42	47	64	17	22	B (67)	SI	60	4	0	59	5	1	59	5	1	58	6	1	57	7	1	NP	NP	0	NP	NP	NP
S1-407	Alt9-NB-31/32/33	Residential	1	Wilson Avenue	43	49	63	14	20	B (67)	SI	60	3	0	59	4	0	59	4	0	58	5	1	57	6	1	NP	NP	0	NP	NP	NP
S1-408a	Alt9-NB-34/35/39	Residential	7	Placentia Avenue	49	58	58	0	9	B (67)	--	56	2	0	56	2	0	56	2	0	56	2	0	55*	3	0	NP	NP	0	NP	NP	NP
S1-408b	Alt9-NB-34/35/39	Residential	7	Placentia Avenue	48	57	58	1	10	B (67)	--	55	3	0	55	3	0	54	4	0	53	5	7	53*	5	7	NP	NP	0	NP	NP	NP
S1-408c	Alt9-NB-34/35/39	Residential	5	Placentia Avenue	47	54	58	4	11	B (67)	--	56	2	0	55	3	0	54	4	0	53	5	5	53*	5	5	NP	NP	0	NP	NP	NP
S1-408	Alt9-NB-34/35/39	Residential	4	Placentia Avenue	42	49	60	11	18	B (67)	SI	57	3	0	56	4	0	55	5	4	54	6	4	53*	7	4	NP	NP	0	NP	NP	NP
S1-409	Alt9-NB-34/35/39	Residential	3	Placentia Avenue	41	48	61	13	20	B (67)	SI	57	4	0	56	5	3	55	6	3	54	7	3	53*	8	3	NP	NP	0	NP	NP	NP
S1-410	Alt9-NB-34/35/39	Residential	1	Placentia Avenue	41	47	61	14	20	B (67)	SI	58	3	0	57	4	0	56	5	1	55	6	1	54*	7	1	NP	NP	0	NP	NP	NP
S1-411	Alt9-NB-34/35/39	Residential	1	Placentia Avenue	42	48	60	12	18	B (67)	SI	56	4	0	55	5	1	55	5	1	54	6	1	53*	7	1	NP	NP	0	NP	NP	NP
S1-412	Alt9-NB-34/35/39	Residential	1	Placentia Avenue	42	48	61	13	19	B (67)	SI	58	3	0	57	4	0	56	5	1	55	6	1	54*	7	1	NP	NP	0	NP	NP	NP
S1-412a	Alt9-NB-34/35/39	Residential	1	Murieta Road	37	43	59	16	22	B (67)	SI	56	3	0	55	4	0	54	5	1	53	6	1	52*	7	1	NP	NP	0	NP	NP	NP
S1-412b	Alt9-NB-34/35/39	Residential	1	Murieta Road	37	43	59	16	22	B (67)	SI	56	3	0	55	4	0	55	4	0	53	6	1	53*	6	1	NP	NP	0	NP	NP	NP
S1-413a	Alt9-NB-31/32/33	Residential	9	Clapper Street	39	45	60	15	21	B (67)	SI	57	3	0	56	4	0	55	5	9	54	6	9	53	7	9	NP	NP	0	NP	NP	NP
S1-413	Alt9-NB-31/32/33	Residential	4	Clapper Street	39	44	65	21	26	B (67)	SI	60	5	4	59	6	4	57	8	4	56	9	4	55	10	4	NP	NP	0	NP	NP	NP
S1-414	Alt9-NB-31/32/33	Residential	2	Clapper Street	37	43	67	24	30	B (67)	A/E	60	7	2	59	8	2	58	9	2	57	10	2	56	11	2	NP	NP	0	NP	NP	NP
S1-415	Alt9-NB-31/32/33	Residential	2	Clapper Street	38	44	68	24	30	B (67)	A/E	62	6	2	60	8	2	59	9	2	58	10	2	57	11	2	NP	NP	0	NP	NP	NP
S1-416	Alt9-NB-31/32/33	Residential	5	Sparrow Way	38	43	66	23	28	B (67)	SI	61	5	5	59	7	5	58	8	5	57	9	5	57	9	5	NP	NP	0	NP	NP	NP
S1-417	Alt9-NB-31/32/33	Residential	6	Sparrow Way	39	44	63	19	24	B (67)	SI	59	4	0	58	5	6	57	6	6	56	7	6	55	8	6	NP	NP	0	NP	NP	NP
S1-418	Alt9-NB-31/32/33	Residential	6	Sparrow Way	40	45	62	17	22	B (67)	SI	59	3	0	58	4	0	57	5	6	56	6	6	55	7	6	NP	NP	0	NP	NP	NP
S1-419	Alt9-NB-31/32/33	Residential	5	Sparrow Way	40	45	63	18	23	B (67)	SI	59	4	0	58	5	5	57	6	5	56	7	5	55	8	5	NP	NP	0	NP	NP	NP
S1-429	Alt9-NB-31/32/33	Residential	2	Sandgrouse Lane	45	50	64	14	19	B (67)	SI	61	3	0	60	4	0	59	5	2	58	6	2	58	6	2	NP	NP	0	NP	NP	NP
S1-430	Alt9-NB-31/32/33	Residential	3	Egret Circle	46	51	64	13	18	B (67)	SI	61	3	0	60	4	0	59	5	3	58	6	3	58	6	3	NP	NP	0	NP	NP	NP
S1-431	Alt9-NB-31/32/33	Residential	5	Whimbrel Way	40	45	61	16	21	B (67)	SI	57	4	0	56	5	5	55	6	5	54	7	5	53	8	5	NP	NP	0	NP	NP	NP
S1-432	Alt9-NB-31/32/33	Residential	6	Whimbrel Way	40	45	59	14	19	B (67)	SI	55	4	0	54	5	6	53	6	6	52	7	6	52	7	6	NP	NP	0	NP	NP	NP
S1-433	Alt9-NB-31/32/33	Residential	5	Whimbrel Way	41	46	59	13	18	B (67)	SI	55	4	0	54	5	5	53	6	5	53	6	5	52	7	5	NP	NP	0	NP	NP	NP
S1-434	Alt9-NB-31/32/33	Residential	2	Whimbrel Way	42	47	60	13	18	B (67)	SI	57	3	0	56	4	0	54	6	2	53	7	2	53	7	2	NP	NP	0	NP	NP	NP
S1-435	Alt9-NB-31/32/33	Residential	3	Whimbrel Way	42	47	64	17	22	B (67)	SI	59	5	3	57	7	3	56	8	3	55	9	3	54	10	3	NP	NP	0	NP	NP	NP
S1-436	Alt9-NB-31/32/33	Residential	6	Tern Place	44	49	64	15	20	B (67)	SI	60	4	0	59	5	6	58	6	6	56	8	6	56	8	6	NP	NP	0	NP	NP	NP
S1-437	Alt9-NB-31/32/33	Residential	3	Tern Place	45	50	61	11	16	B (67)	SI	58	3	0	57	4	0	57	4	0	56	5	3	55	6	3	NP	NP	0	NP	NP	NP
S1-438	Alt9-NB-31/32/33	Residential	3	Tern Place	46	51	64	13	18	B (67)	SI	60	4	0	60	4	0	59	5	3	57	7	3	57	7	3	NP	NP	0	NP	NP	NP
S1-439	Alt9-NB-31/32/33	Residential	5	Sandgrouse Lane	47	52	63	11	16	B (67)	SI	60	3	0	59	4	0	58	5	5	57	6	5	57	6	5	NP	NP	0	NP	NP	NP
S1-440	Alt9-NB-31/32/33	Residential	5	Sandgrouse Lane	50	55	60	5	10	B (67)	--	59	1	0	59	1	0	58	2	0	58	2	0	58	2	0	NP	NP	0	NP	NP	NP

Table 3.15.S Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																								
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																		
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-441	Alt9-NB-31/32/33	Residential	4	Sandgrouse Lane	47	52	60	8	13	B (67)	SI	58	2	0	58	2	0	58	2	0	57	3	0	57	3	0	NP	NP	0	NP	NP	NP
S1-442	Alt9-NB-31/32/33	Residential	3	Barn Owl Drive	52	57	61	4	9	B (67)	--	60	1	0	59	2	0	59	2	0	59	2	0	59	2	0	NP	NP	0	NP	NP	NP
S1-443	Alt9-NB-31/32/33	Residential	3	Barn Owl Drive	52	57	61	4	9	B (67)	--	60	1	0	60	1	0	60	1	0	60	1	0	59	2	0	NP	NP	0	NP	NP	NP
S1-444	Alt9-NB-31/32/33	Residential	3	Barn Owl Drive	53	58	62	4	9	B (67)	--	61	1	0	60	2	0	60	2	0	60	2	0	60	2	0	NP	NP	0	NP	NP	NP
S1-445	Alt9-NB-31/32/33	Residential	1	Barn Owl Drive	54	59	62	3	8	B (67)	--	60	2	0	60	2	0	60	2	0	59	3	0	59	3	0	NP	NP	0	NP	NP	NP
S1-446	Alt9-NB-31/32/33	Residential	1	Barn Owl Drive	53	58	66	8	13	B (67)	SI	64	2	0	63	3	0	63	3	0	63	3	0	62	4	0	NP	NP	0	NP	NP	NP
S1-447	Alt9-NB-34/35/39	Residential	2	Placentia Avenue	43	53	63	10	20	B (67)	SI	60	3	0	59	4	0	58	5	2	56	7	2	55*	8	2	NP	NP	0	NP	NP	NP
S1-448	Alt9-NB-34/35/39	Residential	1	Placentia Avenue	43	50	62	12	19	B (67)	SI	59	3	0	58	4	0	57	5	1	56	6	1	55*	7	1	NP	NP	0	NP	NP	NP
S1-449	Alt9-NB-34/35/39	Residential	1	Evans Road	54	58	67	9	13	B (67)	SI	65	2	0	65	2	0	65	2	0	64	3	0	64*	3	0	NP	NP	0	NP	NP	NP
S1-450		Park	2[2]	Evans Road	57	61	63	2	6	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-451		Residential	1	Old Evans Road	56	61	65	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-452	Alt9-NB-36	Residential	1	Eureka Avenue	37	44	67	23	30	B (67)	A/E	63	4	0	62	5	1	61	6	1	60*	7	1	59	8	1	NP	NP	0	NP	NP	NP
S1-453	Alt9-NB-37	Residential	2	Future McCanna Hills	40	40	72	32	32	B (67)	A/E	69	3	0	68	4	0	66	6	2	64*	8	2	63	9	2	61	11	2	NP	NP	NP
S1-454	Alt9-NB-37	Residential	2	Future McCanna Hills	40	40	60	20	20	B (67)	SI	59	1	0	59	1	0	58	2	0	58*	2	0	57	3	0	57	3	0	NP	NP	NP
S1-455	Alt9-NB-37	Residential	3	Future McCanna Hills	40	40	55	15	15	B (67)	SI	55	0	0	55	0	0	55	0	0	55*	0	0	55	0	0	55	0	0	NP	NP	NP
S1-456	Alt9-NB-37	Residential	3	Future McCanna Hills	40	40	53	13	13	B (67)	SI	53	0	0	53	0	0	53	0	0	53*	0	0	53	0	0	53	0	0	NP	NP	NP
S1-457	Alt9-NB-37	Residential	2	Future McCanna Hills	40	40	58	18	18	B (67)	SI	57	1	0	56	2	0	56	2	0	55*	3	0	55	3	0	54	4	0	NP	NP	NP
S1-458	Alt9-NB-37	Residential	3	Future McCanna Hills	40	40	60	20	20	B (67)	SI	58	2	0	58	2	0	57	3	0	56*	4	0	56	4	0	55	5	3	NP	NP	NP
S1-459	Alt9-NB-37	Residential	3	*Future McCanna Hills*	40	40	60	20	20	B (67)	SI	57	3	0	57	3	0	56	4	0	56*	4	0	55	5	3	55	5	3	NP	NP	NP
S1-460	Alt9-NB-37	Residential	3	Future McCanna Hills	40	40	64	24	24	B (67)	SI	63	1	0	62	2	0	62	2	0	61	3	0	59*	5	3	59	5	3	58	6	3	NP	NP	NP
S1-461	Alt9-NB-37	Residential	2	Future McCanna Hills	40	40	61	21	21	B (67)	SI	58	3	0	58	3	0	57	4	0	56*	5	2	56	5	2	55	6	2	NP	NP	NP
S1-462	Alt9-NB-37	Residential	2	Future McCanna Hills	40	40	58	18	18	B (67)	SI	56	2	0	56	2	0	55	3	0	55*	3	0	54	4	0	54	4	0	NP	NP	NP
S1-463	Alt9-NB-37	Residential	3	Future McCanna Hills	40	40	55	15	15	B (67)	SI	54	1	0	54	1	0	54	1	0	53*	2	0	53	2	0	53	2	0	NP	NP	NP
S1-464	Alt9-NB-37	Residential	2	Future McCanna Hills	40	40	56	16	16	B (67)	SI	54	2	0	54	2	0	54	2	0	54*	2	0	53	3	0	53	3	0	NP	NP	NP
S1-465	Alt9-NB-37	Residential	3	Future McCanna Hills	40	40	55	15	15	B (67)	SI	53	2	0	53	2	0	53	2	0	53*	2	0	52	3	0	52	3	0	NP	NP	NP
S1-466	Alt9-NB-37	Residential	2	Future McCanna Hills	40	40	49	9	9	B (67)	--	49	0	0	49	0	0	49	0	0	49*	0	0	49	0	0	49	0	0	NP	NP	NP
S1-467	Alt9-NB-37	Residential	4	Future McCanna Hills	40	40	53	13	13	B (67)	SI	53	0	0	53	0	0	53	0	0	53*	0	0	53	0	0	52	1	0	NP	NP	NP
S1-468	Alt9-NB-37	Residential	3	Future McCanna Hills	40	40	53	13	13	B (67)	SI	52	1	0	52	1	0	52	1	0	52*	1	0	51	2	0	51	2	0	NP	NP	NP
S1-469	Alt9-NB-37	Residential	3	Future McCanna Hills	40	40	51	11	11	B (67)	--	51	0	0	51	0	0	51	0	0	51*	0	0	51	0	0	51	0	0	NP	NP	NP
S1-470		School	1[2]	Sherman Road	41	45	48	3	7	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-471		School	6[2]	Sherman Road	41	46	48	2	7	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-472		School	1	Walnut Street	46	51	49	-2	3	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-472a		School	7[2]	Walnut Street	51	56	54	-2	3	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-473		School	6[2]	Walnut Street	56	60	60	0	4	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-474		Residential	3	Cayenne Way	50	55	55	0	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-475		Residential	3	Cayenne Way	48	52	52	0	4	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-476		Residential	3	Cayenne Way	47	51	52	1	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-476a		Residential	7	Cayenne Way	44	48	50	2	6	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S1-477	Alt9-NB-35/38/39	Residential	1	Evans Road	55	58	65	7	10	B (67)	--	64	1	0	64	1	0	64	1	0	64*	1	0	64	1	0	NP	NP	0	NP	NP	NP
S1-478	Alt9-NB-35/38/39	Residential	1	Evans Road	60	63	69	6	9	B (67)	A/E	69	0	0	69	0	0	69	0	0	69*	0	0	69	0	0	NP	NP	0	NP	NP	NP
S1-479	Alt9-NB-35/38/39	Residential	1	Placentia Avenue	51	57	65	8	14	B (67)	SI	63	2	0	63	2	0	63	2	0	62*	3	0	62	3	0	NP	NP	0	NP	NP	NP
S1-480	Alt9-NB-35/38/39	Residential	1	Placentia Avenue	48	54	62	8	14	B (67)	SI	60	2	0	60	2	0	59	3	0	59*	3	0	58	4	0	NP	NP	0	NP	NP	NP
S1-481	Alt9-NB-35/38/39	Residential	2	Placentia Avenue	45	51	61	10	16	B (67)	SI	59	2	0	58	3	0	57	4	0	57*	4	0	56	5	2	NP	NP	0	NP	NP	NP
S1-482	Alt9-NB-35/38/39	Residential	2	Placentia Avenue	42	51	60	9	18	B (67)	SI	59	1	0	58	2	0	57	3	0	56*	4	0	56	4	0	NP	NP	0	NP	NP	NP
S1-483	Alt9-NB-35/38/39	Residential	1	Placentia Avenue	42	56	61	5	19	B (67)	SI	58	3	0	57	4	0	56	5	1	55*	6	1	55	6	1	NP	NP	0	NP	NP	NP
S1-484	Alt9-NB-35/38/39	Residential	1	Toliver Road	48	52	62	10	14	B (67)	SI	60	2	0	60	2	0	59	3	0	59*	3	0	58	4	0	NP	NP	0	NP	NP	NP
S1-485	Alt9-NB-35/38/39	Residential	1	Toliver Road	46	51	62	11	16	B (67)	SI	60	2	0	59	3	0	58	4	0	57*	5	1	57	5	1	NP	NP	0	NP	NP	NP
S1-486	Alt9-NB-35/38/39	Residential	2	El Nido Avenue	41	51	61	10	20	B (67)	SI	59	2	0	58	3	0	56	5	2	55*	6	2	55	6	2	NP	NP	0	NP	NP	NP
S1-487	Alt9-NB-35/38/39	Residential	1	El Nido Avenue	39	49	61	12	22	B (67)	SI	58	3	0	57	4	0	56	5	1	55*	6	1	54	7	1	NP	NP	0	NP	NP	NP
S1-488	Alt9-NB-35/38/39	Residential	1	Eureka Avenue	41	55	63	8	22	B (67)	SI	60	3	0	59	4	0	57	6	1	56*	7	1	56	7	1	NP	NP	0	NP	NP	NP
S1-489	Alt9-NB-35/38/39	Residential	1	Eureka Avenue	35	46	62	16	27	B (67)	SI	59	3	0	58	4	0	56	6	1	55*	7	1	54	8	1	NP	NP	0	NP	NP	NP
S1-490	Alt9-NB-35/38/39	Residential	1	Eureka Avenue	37	46	62	16	25	B (67)	SI	58	4	0	57	5	1	57	5	1	55*	7	1	55	7	1	NP	NP	0	NP	NP	NP

Table 3.15.S Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S1-491	Alt9-NB-35/38/39	Residential	1	Eureka Avenue	38	49	61	12	23	B (67)	SI	58	3	0	57	4	0	56	5	1	55*	6	1	54	7	1	NP	NP	0	NP	NP	NP
S1-492	Alt9-NB-35/38/39	Residential	1	Eureka Avenue	34	43	60	17	26	B (67)	SI	57	3	0	56	4	0	55	5	1	54*	6	1	53	7	1	NP	NP	0	NP	NP	NP
S1-493	Alt9-NB-35/38/39	Residential	1	Eureka Avenue	37	45	61	16	24	B (67)	SI	58	3	0	58	3	0	57	4	0	55*	6	1	55	6	1	NP	NP	0	NP	NP	NP
S1-494	Alt9-NB-40	Residential	4	Future McCanna Hills	37	37	61	24	24	B (67)	SI	60	1	0	60	1	0	60*	1	0	60	1	0	60	1	0	60	1	0	NP	NP	NP
S1-495	Alt9-NB-40	Residential	4	Future McCanna Hills	37	37	60	23	23	B (67)	SI	58	2	0	58	2	0	58*	2	0	58	2	0	58	2	0	58	2	0	NP	NP	NP
S1-496	Alt9-NB-40	Residential	4	Future McCanna Hills	37	37	61	24	24	B (67)	SI	57	4	0	57	4	0	57*	4	0	57	4	0	57	4	0	57	4	0	NP	NP	NP
S1-497	Alt9-NB-40	Residential	6	Future McCanna Hills	37	37	60	23	23	B (67)	SI	58	2	0	58	2	0	57*	3	0	57	3	0	57	3	0	56	4	0	NP	NP	NP
S1-498	Alt9-NB-40	Residential	6	Future McCanna Hills	37	37	58	21	21	B (67)	SI	56	2	0	56	2	0	56*	2	0	55	3	0	55	3	0	55	3	0	NP	NP	NP
S1-499	Alt9-NB-40	Residential	6	Future McCanna Hills	37	37	58	21	21	B (67)	SI	55	3	0	55	3	0	55*	3	0	55	3	0	54	4	0	54	4	0	NP	NP	NP
S1-500	Alt9-NB-40	Residential	4	Future McCanna Hills	37	37	60	23	23	B (67)	SI	57	3	0	57	3	0	57*	3	0	56	4	0	56	4	0	55	5	4	NP	NP	NP
S1-501	Alt9-NB-40	Residential	3	Future McCanna Hills	37	37	63	26	26	B (67)	SI	60	3	0	59	4	0	58*	5	3	57	6	3	57	6	3	56	7	3	NP	NP	NP
S1-502	Alt9-NB-40	Residential	2	Future McCanna Hills	37	37	61	24	24	B (67)	SI	61	0	0	61	0	0	61*	0	0	61	0	0	61	0	0	61	0	0	NP	NP	NP
S1-503	Alt9-NB-40	Residential	2	Future McCanna Hills	37	37	59	22	22	B (67)	SI	58	1	0	58	1	0	58*	1	0	58	1	0	58	1	0	58	1	0	NP	NP	NP
S1-504	Alt9-NB-40	Residential	3	Future McCanna Hills	37	37	58	21	21	B (67)	SI	58	0	0	58	0	0	58*	0	0	58	0	0	58	0	0	58	0	0	NP	NP	NP
S1-505	Alt9-NB-40	Residential	4	Future McCanna Hills	37	37	57	20	20	B (67)	SI	57	0	0	57	0	0	57*	0	0	57	0	0	57	0	0	57	0	0	NP	NP	NP
S1-506	Alt9-NB-40	Residential	6	Future McCanna Hills	37	37	56	19	19	B (67)	SI	56	0	0	56	0	0	56	0	0	56	0	0	56	0	0	56	0	0	NP	NP	NP
S1-507	Alt9-NB-40	Residential	6	Future McCanna Hills	37	37	55	18	18	B (67)	SI	55	0	0	55	0	0	55	0	0	55	0	0	55	0	0	55	0	0	NP	NP	NP
S1-508	Alt9-NB-40	Residential	3	Future McCanna Hills	37	37	55	18	18	B (67)	SI	54	1	0	54	1	0	54	1	0	54	1	0	54	1	0	54	1	0	NP	NP	NP
S1-509	Alt9-NB-40	Residential	3	Future McCanna Hills	37	37	55	18	18	B (67)	SI	53	2	0	53	2	0	53	2	0	53	2	0	53	2	0	53	2	0	NP	NP	NP
S1-510	Alt9-NB-40	Residential	2	Future McCanna Hills	37	37	55	18	18	B (67)	SI	53	2	0	53	2	0	53	2	0	53	2	0	53	2	0	53	2	0	NP	NP	NP
S1-511	Alt9-NB-40	Residential	3	Future McCanna Hills	37	37	56	19	19	B (67)	SI	54	2	0	54	2	0	53	3	0	53	3	0	53	3	0	53	3	0	NP	NP	NP
S1-511a		Vacant	1	South of Future Build Alternative	37	37	47	10	10	G	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-1	Alt9-NB-41/42	Residential	3	Future Stoneridge	41	46	60	14	19	B (67)	SI	57	3	0	56	4	0	56	4	0	55	5	3	54*	6	3	NP	NP	0	NP	NP	NP
S2-2	Alt9-NB-41/42	Residential	3	Future Stoneridge	41	46	60	14	19	B (67)	SI	56	4	0	56	4	0	55	5	3	54	6	3	54*	6	3	NP	NP	0	NP	NP	NP
S2-3	Alt9-NB-41/42	Residential	3	Future Stoneridge	42	47	60	13	18	B (67)	SI	56	4	0	56	4	0	55	5	3	53	7	3	53*	7	3	NP	NP	0	NP	NP	NP
S2-4	Alt9-NB-41/42	Residential	3	Future Stoneridge	42	47	59	12	17	B (67)	SI	56	3	0	55	4	0	54	5	3	53	6	3	53*	6	3	NP	NP	0	NP	NP	NP
S2-5	Alt9-NB-41/42	Residential	3	Future Stoneridge	42	47	59	12	17	B (67)	SI	56	3	0	55	4	0	54	5	3	53	6	3	53*	6	3	NP	NP	0	NP	NP	NP
S2-6	Alt9-NB-41/42	Residential	3	Future Stoneridge	42	47	59	12	17	B (67)	SI	56	3	0	55	4	0	55	4	0	54	5	3	54*	5	3	NP	NP	0	NP	NP	NP
S2-7	Alt9-NB-41/42	Residential	3	Future Stoneridge	42	47	58	11	16	B (67)	SI	55	3	0	55	3	0	54	4	0	54	4	0	53*	5	3	NP	NP	0	NP	NP	NP
S2-8	Alt9-NB-41/42	Residential	3	Future Stoneridge	43	48	57	9	14	B (67)	SI	55	2	0	55	2	0	54	3	0	53	4	0	53*	4	0	NP	NP	0	NP	NP	NP
S2-9	Alt9-NB-41/42	Residential	3	Future Stoneridge	42	48	57	9	15	B (67)	SI	55	2	0	54	3	0	53	4	0	53	4	0	53*	4	0	NP	NP	0	NP	NP	NP
S2-10	Alt9-NB-41/42	Residential	3	Future Stoneridge	43	48	57	9	14	B (67)	SI	55	2	0	54	3	0	53	4	0	53	4	0	52*	5	3	NP	NP	0	NP	NP	NP
S2-11	Alt9-NB-41/42	Residential	3	Future Stoneridge	43	48	57	9	14	B (67)	SI	55	2	0	54	3	0	53	4	0	53	4	0	53*	4	0	NP	NP	0	NP	NP	NP
S2-12	Alt9-NB-41/42	Residential	2	Future Stoneridge	41	46	57	11	16	B (67)	SI	54	3	0	54	3	0	53	4	0	52	5	2	52*	5	2	NP	NP	0	NP	NP	NP
S2-13	Alt9-NB-41/42	Residential	3	Future Stoneridge	41	47	56	9	15	B (67)	SI	53	3	0	53	3	0	52	4	0	51	5	3	51*	5	3	NP	NP	0	NP	NP	NP
S2-14	Alt9-NB-41/42	Residential	3	Future Stoneridge	41	47	56	9	15	B (67)	SI	53	3	0	53	3	0	52	4	0	51	5	3	51*	5	3	NP	NP	0	NP	NP	NP
S2-15	Alt9-NB-41/42	Residential	3	Future Stoneridge	42	47	56	9	14	B (67)	SI	53	3	0	53	3	0	52	4	0	51	5	3	51*	5	3	NP	NP	0	NP	NP	NP
S2-16		Residential	3	Future Community Southwest	43	48	50	2	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-17		Residential	4	Future Community Southwest	44	49	52	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-18		Residential	3	Future Community Southwest	46	51	54	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-19		Residential	4	Future Community Southwest	47	52	56	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-20		Residential	2	Future Community Southwest	49	54	59	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-21		Residential	3	Future Community Southwest	51	55	60	5	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-22	Alt9-NB-43	Residential	4	Future Community Southwest	51	55	60	5	9	B (67)	--	58	2	0	58	2	0	58	2	0	58*	2	0	58	2	0	NP	NP	0	NP	NP	NP
S2-23		Residential	3	Future Community Southwest	43	48	51	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-24		Residential	5	Future Community Southwest	45	50	54	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-25		Residential	5	Future Community Southwest	47	52	55	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-26		Residential	3	Future Community Southwest	49	53	57	4	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-27	Alt9-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	59	2	0	59	2	0	59	2	0	59*	2	0	59	2	0	NP	NP	0	NP	NP	NP
S2-28	Alt9-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	58	3	0	58	3	0	58	3	0	58*	3	0	58	3	0	NP	NP	0	NP	NP	NP
S2-29	Alt9-NB-43	Residential	2	Future Community Southwest	51	55	60	5	9	B (67)	--	58	2	0	58	2	0	58	2	0	58*	2	0	58	2	0	NP	NP	0	NP	NP	NP
S2-30	Alt9-NB-43	Residential	4	Future Community Southwest	48	53	56	3	8	B (67)	--	55	1	0	55	1	0	54	2	0	53*	3	0	53	3	0	NP	NP	0	NP	NP	NP

Table 3.15.S Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-31	Alt9-NB-43	Residential	1	Future Community Southwest	48	53	58	5	10	B (67)	--	56	2	0	56	2	0	55	3	0	53*	5	1	52	6	1	NP	NP	0	NP	NP	NP
S2-32	Alt9-NB-43	Residential	3	Future Community Southwest	49	54	59	5	10	B (67)	--	58	1	0	57	2	0	56	3	0	54*	5	3	53	6	3	NP	NP	0	NP	NP	NP
S2-33	Alt9-NB-43	Residential	3	Future Community Southwest	51	56	63	7	12	B (67)	SI	60	3	0	59	4	0	58	5	3	56*	7	3	55	8	3	NP	NP	0	NP	NP	NP
S2-34	Alt9-NB-43	Residential	3	Future Community Southwest	50	55	63	8	13	B (67)	SI	59	4	0	59	4	0	58	5	3	55*	8	3	55	8	3	NP	NP	0	NP	NP	NP
S2-35	Alt9-NB-43	Residential	3	Future Community Southwest	47	51	58	7	11	B (67)	--	55	3	0	54	4	0	53	5	3	51*	7	3	51	7	3	NP	NP	0	NP	NP	NP
S2-36	Alt9-NB-43	Residential	3	Future Community Southwest	48	53	61	8	13	B (67)	SI	58	3	0	57	4	0	56	5	3	54*	7	3	53	8	3	NP	NP	0	NP	NP	NP
S2-37	Alt9-NB-43	Residential	5	Future Community Southwest	47	52	59	7	12	B (67)	SI	56	3	0	55	4	0	54	5	5	52*	7	5	51	8	5	NP	NP	0	NP	NP	NP
S2-38	Alt9-NB-43	Residential	5	Future Community Southwest	52	57	69	12	17	B (67)	SI	63	6	5	62	7	5	60	9	5	58*	11	5	57	12	5	NP	NP	0	NP	NP	NP
S2-39	Alt9-NB-43	Residential	3	Future Community Southwest	52	57	66	9	14	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0	NP	NP	NP
S2-40	Alt9-NB-43	Residential	3	Future Community Southwest	52	57	67	10	15	B (67)	SI	63	4	0	62	5	3	59	8	3	58*	9	3	57	10	3	NP	NP	0	NP	NP	NP
S2-41	Alt9-NB-43	Residential	3	Future Community Southwest	51	56	66	10	15	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0	NP	NP	NP
S2-42	Alt9-NB-43	Residential	3	Future Community Southwest	51	56	66	10	15	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0	NP	NP	NP
S2-43	Alt9-NB-43	Residential	3	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	3	58	7	3	57*	8	3	56	9	3	NP	NP	0	NP	NP	NP
S2-44	Alt9-NB-43	Residential	2	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	2	58	7	2	57*	8	2	56	9	2	NP	NP	0	NP	NP	NP
S2-45	Alt9-NB-43	Residential	4	Future Community Southwest	51	56	66	10	15	B (67)	SI	62	4	0	61	5	4	58	8	4	57*	9	4	56	10	4	NP	NP	0	NP	NP	NP
S2-46	Alt9-NB-43	Residential	5	Future Community Southwest	49	54	63	9	14	B (67)	SI	59	4	0	58	5	5	56	7	5	55*	8	5	54	9	5	NP	NP	0	NP	NP	NP
S2-47	Alt9-NB-43	Residential	4	Future Community Southwest	49	54	61	7	12	B (67)	SI	58	3	0	57	4	0	55	6	4	54*	7	4	53	8	4	NP	NP	0	NP	NP	NP
S2-48	Alt9-NB-43	Residential	5	Future Community Southwest	48	53	61	8	13	B (67)	SI	57	4	0	57	4	0	54	7	5	53*	8	5	53	8	5	NP	NP	0	NP	NP	NP
S2-49	Alt9-NB-43	Residential	3	Future Community Southwest	47	52	60	8	13	B (67)	SI	57	3	0	56	4	0	54	6	3	53*	7	3	52	8	3	NP	NP	0	NP	NP	NP
S2-50	Alt9-NB-43	Residential	3	Future Community Southwest	46	51	59	8	13	B (67)	SI	56	3	0	56	3	0	53	6	3	52*	7	3	52	7	3	NP	NP	0	NP	NP	NP
S2-51	Alt9-NB-43	Residential	2	Future Community Southwest	51	55	65	10	14	B (67)	SI	61	4	0	59	6	2	57	8	2	56*	9	2	56	9	2	NP	NP	0	NP	NP	NP
S2-52	Alt9-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	57	6	4	55	8	4	54*	9	4	53	10	4	NP	NP	0	NP	NP	NP
S2-53	Alt9-NB-43	Residential	3	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0	NP	NP	NP
S2-54	Alt9-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	4	56	7	4	55*	8	4	54	9	4	NP	NP	0	NP	NP	NP
S2-55	Alt9-NB-43	Residential	3	Future Community Southwest	49	53	63	10	14	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0	NP	NP	NP
S2-56	Alt9-NB-43	Residential	5	Future Community Southwest	47	52	64	12	17	B (67)	SI	59	5	5	58	6	5	56	8	5	55*	9	5	54	10	5	NP	NP	0	NP	NP	NP
S2-57		Park	12[2]	Future The Villages of Lakeview	52	57	59	2	7	C (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-58	Alt9-NB-44	Residential	8[2]	Future The Villages of Lakeview	52	57	57	0	5	B (67)	--	57	0	0	57	0	0	57	0	0	57	0	0	57	0	0	NP	NP	0	NP	NP	NP
S2-59	Alt9-NB-44	Residential	8[2]	Future The Villages of Lakeview	53	57	63	6	10	B (67)	--	61	2	0	60	3	0	60	3	0	60	3	0	58	5	8	NP	NP	0	NP	NP	NP
S2-60	Alt9-NB-44	Residential	8[2]	Future The Villages of Lakeview	52	57	64	7	12	B (67)	SI	61	3	0	60	4	0	59	5	8	59	5	8	58	6	8	NP	NP	0	NP	NP	NP
S2-61	Alt9-NB-44	Residential	1[2]	Future The Villages of Lakeview	56	60	67	7	11	B (67)	A/E	63	4	0	62	5	1	61	6	1	61	6	1	59	8	1	NP	NP	0	NP	NP	NP
S2-62	Alt9-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	60	71	11	16	B (67)	SI	64	7	6	63	8	6	62	9	6	62	9	6	60	11	6	NP	NP	0	NP	NP	NP
S2-63	Alt9-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	70	9	15	B (67)	SI	64	6	6	63	7	6	61	9	6	61	9	6	59	11	6	NP	NP	0	NP	NP	NP
S2-64	Alt9-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	68	7	13	B (67)	SI	63	5	6	62	6	6	60	8	6	60	8	6	58	10	6	NP	NP	0	NP	NP	NP
S2-65	Alt9-NB-44	Residential	6[2]	Future The Villages of Lakeview	55	61	68	7	13	B (67)	SI	63	5	6	61	7	6	60	8	6	60	8	6	59	9	6	NP	NP	0	NP	NP	NP
S2-66	Alt9-NB-44	Residential	15[2]	Future The Villages of Lakeview	56	61	70	9	14	B (67)	SI	65	5	15	64	6	15	62	8	15	62	8	15	60	10	15	NP	NP	0	NP	NP	NP
S2-67	Alt9-NB-45	Residential	1	Reservoir Avenue	44	49	54	5	10	B (67)	--	54	0	0	54	0	0	54	0	0	54	0	0	54*	0	0	NP	NP	0	NP	NP	NP
S2-68		Commercial	1	Reservoir Avenue	57	62	71	9	14	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-68a	Alt9-NB-45	Residential	1	Palm Avenue	48	52	58	6	10	B (67)	--	58	0	0	58	0	0	58	0	0	58	0	0	57*	1	0	NP	NP	0	NP	NP	NP
S2-69	Alt9-NB-45	Residential	1	Reservoir Avenue	49	54	63	9	14	B (67)	SI	63	0	0	62	1	0	61	2	0	60	3	0	59*	4	0	NP	NP	0	NP	NP	NP
S2-70	Alt9-NB-45	Residential	1	Magnolia Avenue	57	62	73	11	16	B (67)	SI	69	4	0	67	6	1	65	8	1	64	9	1	62*	11	1	NP	NP	0	NP	NP	NP
S2-71	Alt9-NB-45	School	1[2]	Magnolia Avenue	59	63	73	10	14	C (67)	SI	69	4	0	67	6	1	65	8	1	63	10	1	62*	11	1	NP	NP	0	NP	NP	NP
S2-72	Alt9-NB-45	Residential	3	Magnolia Avenue	52	57	67	10	15	B (67)	SI	65	2	0	63	4	0	62	5	3	60	7	3	59*	8	3	NP	NP	0	NP	NP	NP
S2-73	Alt9-NB-45	Residential	2	Magnolia Avenue	54	59	65	6	11	B (67)	--	64	1	0	62	3	0	61	4	0	60	5	2	59*	6	2	NP	NP	0	NP	NP	NP
S2-74	Alt9-NB-45	Residential	2	Date Street	54	59	65	6	11	B (67)	--	64	1	0	63	2	0	62	3	0	61	4	0	60*	5	2	NP	NP	0	NP	NP	NP
S2-75	Alt9-NB-45	Residential	1	Date Street	51	56	62	6	11	B (67)	--	61	1	0	60	2	0	59	3	0	58	4	0	58*	4	0	NP	NP	0	NP	NP	NP
S2-76		Commercial	1	Reservoir Avenue	65	70	74	4	9	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-77	Alt9-NB-45	Sports Field	7[2]	Hansen Avenue	57	57	61	4	4	C (67)	--	59	2	0	58	3	0	57	4	0	56	5	7	56*	5	7	NP	NP	0	NP	NP	NP
S2-77a	Alt9-NB-45	Residential	1	Orange Street	42	47	55	8	13	B (67)	SI	51	4	0	51	4	0	50	5	1	49	6	1	49*	6	1	NP	NP	0	NP	NP	NP
S2-78	Alt9-NB-45	Park	10[2]	Future The Villages of Lakeview	51	56	67	11	16	C (67)	SI	62	5	10	61	6	10	60	7	10	58	9	10	57*	10	10	NP	NP	0	NP	NP	NP
S2-79	Alt9-NB-45	Residential	15[2]	Future The Villages of Lakeview	47	52	62	10	15	B (67)	SI	58	4	0	57	5	15	57	5	15	55	7	15	55*	7	15	NP	NP	0	NP	NP	NP
S2-80	Alt9-NB-46	Residential	1	Ramona Expressway	59	65	73	8	14	B (67)	SI	67	6	1	66	7	1	65	8	1	63	10	1	63	10	1	NP	NP	0	NP	NP	NP

Table 3.15.S Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																								
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																		
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft			18 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-81	Alt9-NB-46	Residential	1	Ramona Expressway	51	55	64	9	13	B (67)	SI	60	4	0	60	4	0	59	5	1	58	6	1	57	7	1	NP	NP	0	NP	NP	NP
S2-82	Alt9-NB-46	Residential	1	Ramona Expressway	48	52	60	8	12	B (67)	SI	56	4	0	56	4	0	55	5	1	54	6	1	54	6	1	NP	NP	0	NP	NP	NP
S2-83	Alt9-NB-46	Residential	1	Ramona Expressway	52	57	65	8	13	B (67)	SI	62	3	0	61	4	0	60	5	1	59	6	1	58	7	1	NP	NP	0	NP	NP	NP
S2-84	Alt9-NB-46	Residential	1	Ramona Expressway	52	58	67	9	15	B (67)	SI	62	5	1	61	6	1	60	7	1	58	9	1	58	9	1	NP	NP	0	NP	NP	NP
S2-85	Alt9-NB-46	Residential	1	Ramona Expressway	48	53	63	10	15	B (67)	SI	59	4	0	59	4	0	58	5	1	56	7	1	55	8	1	NP	NP	0	NP	NP	NP
S2-86		Residential	9[2]	Future Motte Ranch	46	51	57	6	11	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-87		Residential	9[2]	Future Motte Ranch	51	56	61	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-88		Agricultural	1	Ramona Expressway	52	58	62	4	10	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S2-89	Alt9-NB-47	Residential	10[2]	Future The Villages of Lakeview	55	59	72	13	17	B (67)	SI	72	0	0	70	2	0	68	4	0	66	6	10	64	8	10	NP	NP	0	NP	NP	NP
S2-90	Alt9-NB-47	Residential	10[2]	Future The Villages of Lakeview	56	61	74	13	18	B (67)	SI	68	6	10	67	7	10	66	8	10	63	11	10	62	12	10	NP	NP	0	NP	NP	NP
S2-91	Alt9-NB-47	Residential	12[2]	Future The Villages of Lakeview	55	60	75	15	20	B (67)	SI	70	5	12	68	7	12	67	8	12	64	11	12	63	12	12	NP	NP	0	NP	NP	NP
S2-92	Alt9-NB-47	Residential	8[2]	Future The Villages of Lakeview	54	60	74	14	20	B (67)	SI	72	2	0	71	3	0	69	5	8	67	7	8	65	9	8	NP	NP	0	NP	NP	NP
S2-93	Alt9-NB-47	Residential	10[2]	Future The Villages of Lakeview	50	55	67	12	17	B (67)	SI	63	4	0	62	5	10	61	6	10	60	7	10	59	8	10	NP	NP	0	NP	NP	NP
S2-94	Alt9-NB-48	Residential	8[2]	Future The Villages of Lakeview	55	60	72	12	17	B (67)	SI	71	1	0	69	3	0	68	4	0	66	6	8	65*	7	8	NP	NP	0	NP	NP	NP
S2-95	Alt9-NB-48	Residential	6[2]	Future The Villages of Lakeview	57	62	75	13	18	B (67)	SI	70	5	6	69	6	6	68	7	6	66	9	6	65*	10	6	NP	NP	0	NP	NP	NP
S2-96	Alt9-NB-48	Residential	6[2]	Future The Villages of Lakeview	57	62	76	14	19	B (67)	A/E	70	6	6	69	7	6	67	9	6	65	11	6	64*	12	6	NP	NP	0	NP	NP	NP
S2-97	Alt9-NB-48	Residential	7[2]	Future The Villages of Lakeview	56	62	75	13	19	B (67)	SI	69	6	7	68	7	7	66	9	7	64	11	7	63*	12	7	NP	NP	0	NP	NP	NP
S2-98	Alt9-NB-48	Residential	9[2]	Future The Villages of Lakeview	56	62	76	14	20	B (67)	A/E	69	7	9	68	8	9	67	9	9	64	12	9	63*	13	9	NP	NP	0	NP	NP	NP
S2-99	Alt9-NB-48	Residential	16[2]	Future The Villages of Lakeview	56	61	74	13	18	B (67)	SI	70	4	0	69	5	16	68	6	16	66	8	16	64*	10	16	NP	NP	0	NP	NP	NP
S2-99a		Residential	1	Ramona Expressway	38	49	49	0	11	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-1a		Agricultural	1	Ramona Expressway	48	53	63	10	15	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-1	Alt9-NB-49	Residential	1	Ramona Expressway	56	61	69	8	13	B (67)	SI	63	6	1	62	7	1	60	9	1	59*	10	1	58	11	1	NP	NP	0	NP	NP	NP
S3-2	Alt9-NB-49	Residential	1	Ramona Expressway	45	50	58	8	13	B (67)	SI	54	4	0	54	4	0	53	5	1	52*	6	1	51	7	1	NP	NP	0	NP	NP	NP
S3-3	Alt9-NB-49	Residential	1	Ramona Expressway	47	52	61	9	14	B (67)	SI	56	5	1	55	6	1	54	7	1	53*	8	1	52	9	1	NP	NP	0	NP	NP	NP
S3-4	Alt9-NB-49	Residential	1	Ramona Expressway	47	52	61	9	14	B (67)	SI	56	5	1	55	6	1	55	6	1	54*	7	1	53	8	1	NP	NP	0	NP	NP	NP
S3-5	Alt9-NB-50	Residential	1	Warren Road	46	49	60	11	14	B (67)	SI	55	5	1	52*	8	1	50	10	1	49	11	1	48	12	1	48	12	1	NP	NP	NP
S3-6	Alt9-NB-51	Residential	1	Warren Road	46	49	60	11	14	B (67)	SI	59	1	0	57	3	0	55*	5	1	54	6	1	53	7	1	53	7	1	NP	NP	NP
S3-7		Residential	1	Warren Road	51	54	57	3	6	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-8		Residential	1	Warren Road	46	48	51	3	5	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-9		Agricultural	1	Warren Road	58	60	64	4	6	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-10		Residential	1	Ramona Expressway	55	59	53	-6	-2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-11		Residential	1	Sanderson Avenue	64	68	63	-5	-1	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	NP	NP	NP
S3-12	Alt9-NB-52/53/54	Residential	1	Ramona Boulevard	48	51	66	15	18	B (67)	SI	62	4	0	62	4	0	61	5	1	61*	5	1	60	6	1	NP	NP	0	NP	NP	NP
S3-13	Alt9-NB-52/53/54	Residential	1	Ramona Boulevard	46	49	62	13	16	B (67)	SI	60	2	0	59	3	0	59	3	0	58*	4	0	57	5	1	NP	NP	0	NP	NP	NP

Source: *Final Noise Study Report* (January 2012).

1 I.L.: Insertion Loss.
2 100 ft frontage units were used to determine the number of benefited residences for nonresidential uses.
3 Numbers in **bold** represent noise levels that approach or exceed the NAC.
4 Underlined noise levels have been attenuated by at least 5 dB (i.e., feasible barrier height).
5 NP = Not Permitted. Noise barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.
6 A/E = Approach or exceed the NAC.
7 NF = Not feasible due to access onto the property and outdoor eating areas associated with fast-food restaurants where the expected use would be less than 1 hour and would not be considered a frequent human use area.
8 The shaded areas represent those receptors that would be acquired by the proposed project under Alternative 9 Modified.
* Minimum height needed to break the line of sight between 11.5 ft truck stack and first-row receptors.

Negative numbers in the table are due to changing shielding effects or noise sources under Alternative 9 Modified.
Noise levels for S1-453 to S1-469, S1-494 to S1-511, and S1-511a were adopted from noise monitoring work for existing and 2040 no build conditions since no roadway currently exists.
Segment 1A: S1-1 to S1-59, representing all Build Alternatives.
Segment 1B: S1-355 to S1-511, representing Alternative 9 Modified.
Segment 2: S2-1 to S2-99 and S2-99a, representing all Build Alternatives.
Segment 3: S3-1a and S3-1 to S3-13, representing all Build Alternatives.

Alt = Alternative
dB = decibels
dBA $L_{eq}(h)$ = equivalent continuous sound level per hour measured in A-weighted decibels
ft = foot/feet
NAC = Noise Abatement Criteria
NB = Noise Barrier
NBR = Number of Benefited Residences
RV = recreational vehicle
SI = A substantial increase where predicted worst-hour 2040 noise levels exceed existing worst-hour noise levels by 12 dB.

Table 3.15.T Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 4 Modified San Jacinto River Bridge Design Variation

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-16		Residential	3	Future Community Southwest	43	48	50	2	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-17		Residential	4	Future Community Southwest	44	49	52	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-18		Residential	3	Future Community Southwest	46	51	54	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-19		Residential	4	Future Community Southwest	47	52	56	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-20		Residential	2	Future Community Southwest	49	54	59	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-21		Residential	3	Future Community Southwest	51	55	60	5	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-22		Residential	4	Future Community Southwest	51	55	59	4	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-23		Residential	3	Future Community Southwest	43	48	51	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-24		Residential	5	Future Community Southwest	45	50	53	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-25		Residential	5	Future Community Southwest	47	52	55	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-26		Residential	3	Future Community Southwest	49	53	58	5	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-27	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	59	2	0	58	3	0	57	4	0	56[4]*	5	3	55	6	3	NP[5]	NP	0
S2-28	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	58	3	0	58	3	0	56	5	3	55*	6	3	54	7	3	NP	NP	0
S2-29	Alt4-SJRB-NB-43	Residential	2	Future Community Southwest	51	55	61	6	10	B (67)	--	58	2	0	58	2	0	56	4	0	55*	5	2	54	6	2	NP	NP	0
S2-30	Alt4-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	56	3	8	B (67)	--	55	1	0	55	1	0	54	2	0	53*	3	0	53	3	0	NP	NP	0
S2-31	Alt4-SJRB-NB-43	Residential	1	Future Community Southwest	48	53	58	5	10	B (67)	--	56	2	0	56	2	0	55	3	0	53*	5	1	53	5	1	NP	NP	0
S2-32	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	49	54	59	5	10	B (67)	--	58	1	0	57	2	0	56	3	0	54*	5	3	53	6	3	NP	NP	0
S2-33	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	63	7	12	B (67)	SI	60	3	0	59	4	0	58	5	3	56*	7	3	55	8	3	NP	NP	0
S2-34	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	50	55	63	8	13	B (67)	SI	59	4	0	59	4	0	58	5	3	55*	8	3	55	8	3	NP	NP	0
S2-35	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	47	51	58	7	11	B (67)	--	55	3	0	54	4	0	53	5	3	51*	7	3	51	7	3	NP	NP	0
S2-36	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	48	53	61	8	13	B (67)	SI	58	3	0	57	4	0	56	5	3	54*	7	3	53	8	3	NP	NP	0
S2-37	Alt4-SJRB-NB-43	Residential	5	Future Community Southwest	47	52	59	7	12	B (67)	SI	56	3	0	55	4	0	54	5	5	52*	7	5	51	8	5	NP	NP	0
S2-38	Alt4-SJRB-NB-43	Residential	5	Future Community Southwest	52	57	**69**[2]	12	17	B (67)	A/E[3]	63	6	5	62	7	5	60	9	5	58*	11	5	57	12	5	NP	NP	0
S2-39	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	52	57	**66**	9	14	B (67)	A/E	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-40	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	52	57	**67**	10	15	B (67)	A/E	63	4	0	62	5	3	59	8	3	58*	9	3	57	10	3	NP	NP	0
S2-41	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	15	B (67)	A/E	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-42	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	15	B (67)	A/E	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-43	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	3	58	7	3	57*	8	3	56	9	3	NP	NP	0
S2-44	Alt4-SJRB-NB-43	Residential	2	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	2	58	7	2	57*	8	2	56	9	2	NP	NP	0
S2-45	Alt4-SJRB-NB-43	Residential	4	Future Community Southwest	51	56	**66**	10	15	B (67)	A/E	62	4	0	61	5	4	58	8	4	57*	9	4	56	10	4	NP	NP	0
S2-46	Alt4-SJRB-NB-43	Residential	5	Future Community Southwest	49	54	63	9	14	B (67)	SI	59	4	0	58	5	5	56	7	5	55*	8	5	54	9	5	NP	NP	0
S2-47	Alt4-SJRB-NB-43	Residential	4	Future Community Southwest	49	54	61	7	12	B (67)	SI	58	3	0	57	4	0	55	6	4	54*	7	4	53	8	4	NP	NP	0
S2-48	Alt4-SJRB-NB-43	Residential	5	Future Community Southwest	48	53	61	8	13	B (67)	SI	57	4	0	57	4	0	55	6	5	53*	8	5	53	8	5	NP	NP	0
S2-49	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	47	52	60	8	13	B (67)	SI	57	3	0	56	4	0	54	6	3	53*	7	3	52	8	3	NP	NP	0
S2-50	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	46	51	59	8	13	B (67)	SI	56	3	0	56	3	0	53	6	3	52*	7	3	52	7	3	NP	NP	0
S2-51	Alt4-SJRB-NB-43	Residential	2	Future Community Southwest	51	55	65	10	14	B (67)	SI	61	4	0	59	6	2	57	8	2	56*	9	2	56	9	2	NP	NP	0
S2-52	Alt4-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	57	6	4	55	8	4	54*	9	4	54	9	4	NP	NP	0
S2-53	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0
S2-54	Alt4-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	4	56	7	4	55*	8	4	54	9	4	NP	NP	0

Table 3.15.T Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 4 Modified San Jacinto River Bridge Design Variation

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-55	Alt4-SJRB-NB-43	Residential	3	Future Community Southwest	49	53	64	11	15	B (67)	SI	59	5	3	58	6	3	56	8	3	55*	9	3	54	10	3	NP	NP	0
S2-56	Alt4-SJRB-NB-43	Residential	5	Future Community Southwest	47	52	64	12	17	B (67)	SI	59	5	5	58	6	5	56	8	5	55*	9	5	54	10	5	NP	NP	0

Source: *Final Noise Study Report* (January 2012).
See following page for table footnotes and acronym/abbreviation definitions.

[1] I.L.: Insertion Loss.
[2] Numbers in **bold** represent noise levels that approach or exceed the NAC.
[3] A/E = Approach or exceed the NAC.
[4] Underlined noise levels have been attenuated by at least 5 dB (i.e., feasible barrier height).
[5] NP = Not Permitted. Noise barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.
* Minimum height needed to break the line of sight between 11.5 ft truck stack and first-row receptors.

Alt = Alternative
dB = decibels
dBA $L_{eq}(h)$ = equivalent continuous sound level per hour measured in A-weighted decibels
ft = foot/feet
NAC = Noise Abatement Criteria
NB = Noise Barrier
NBR = Number of Benefited Residences
SI = A substantial increase where predicted worst-hour 2040 noise levels exceed existing worst-hour noise level by 12 dB.
SJRB = San Jacinto River Bridge (Design Variation)

Table 3.15.U Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified San Jacinto River Bridge Design Variation

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-16		Residential	3	Future Community Southwest	43	48	50	2	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-17		Residential	4	Future Community Southwest	44	49	52	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-18		Residential	3	Future Community Southwest	46	51	54	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-19		Residential	4	Future Community Southwest	47	52	56	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-20		Residential	2	Future Community Southwest	49	54	59	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-21		Residential	3	Future Community Southwest	51	55	60	5	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-22		Residential	4	Future Community Southwest	51	55	59	4	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-23		Residential	3	Future Community Southwest	43	48	51	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-24		Residential	5	Future Community Southwest	45	50	53	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-25		Residential	5	Future Community Southwest	47	52	55	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-26		Residential	3	Future Community Southwest	49	53	57	4	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-27	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	59	2	0	59	2	0	59	2	0	56*	5	3	55	6	3	NP	NP	0
S2-28	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	58	3	0	58	3	0	58	3	0	55[4]*	6	3	54	7	3	NP[5]	NP	0
S2-29	Alt5-SJRB-NB-43	Residential	2	Future Community Southwest	51	55	60	5	9	B (67)	--	58	2	0	58	2	0	58	2	0	55*	5	2	54	6	2	NP	NP	0
S2-30	Alt5-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	56	3	8	B (67)	--	55	1	0	55	1	0	55	1	0	53*	3	0	53	3	0	NP	NP	0
S2-31	Alt5-SJRB-NB-43	Residential	1	Future Community Southwest	48	53	58	5	10	B (67)	--	56	2	0	56	2	0	55	3	0	53*	5	1	52	6	1	NP	NP	0
S2-32	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	49	54	59	5	10	B (67)	--	58	1	0	57	2	0	56	3	0	54*	5	3	53	6	3	NP	NP	0
S2-33	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	63	7	12	B (67)	SI	60	3	0	59	4	0	58	5	3	56*	7	3	55	8	3	NP	NP	0
S2-34	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	50	55	63	8	13	B (67)	SI	59	4	0	59	4	0	58	5	3	55*	8	3	55	8	3	NP	NP	0
S2-35	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	47	51	58	7	11	B (67)	--	55	3	0	54	4	0	53	5	3	51*	7	3	51	7	3	NP	NP	0
S2-36	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	48	53	61	8	13	B (67)	SI	58	3	0	57	4	0	56	5	3	54*	7	3	53	8	3	NP	NP	0
S2-37	Alt5-SJRB-NB-43	Residential	5	Future Community Southwest	47	52	59	7	12	B (67)	SI	56	3	0	55	4	0	54	5	5	52*	7	5	51	8	5	NP	NP	0
S2-38	Alt5-SJRB-NB-43	Residential	5	Future Community Southwest	52	57	**69**[2]	12	17	B (67)	A/E[3]	63	6	5	62	7	5	60	9	5	58*	11	5	57	12	5	NP	NP	0
S2-39	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	52	57	**66**	9	14	B (67)	A/E	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-40	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	52	57	**67**	10	15	B (67)	A/E	63	4	0	62	5	3	59	8	3	58*	9	3	57	10	3	NP	NP	0
S2-41	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	15	B (67)	A/E	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-42	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	15	B (67)	A/E	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-43	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	3	58	7	3	57*	8	3	56	9	3	NP	NP	0
S2-44	Alt5-SJRB-NB-43	Residential	2	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	2	58	7	2	57*	8	2	56	9	2	NP	NP	0
S2-45	Alt5-SJRB-NB-43	Residential	4	Future Community Southwest	51	56	**66**	10	15	B (67)	A/E	62	4	0	61	5	4	58	8	4	57*	9	4	56	10	4	NP	NP	0
S2-46	Alt5-SJRB-NB-43	Residential	5	Future Community Southwest	49	54	63	9	14	B (67)	SI	59	4	0	58	5	5	56	7	5	55*	8	5	54	9	5	NP	NP	0
S2-47	Alt5-SJRB-NB-43	Residential	4	Future Community Southwest	49	54	61	7	12	B (67)	SI	58	3	0	57	4	0	55	6	4	54*	7	4	53	8	4	NP	NP	0
S2-48	Alt5-SJRB-NB-43	Residential	5	Future Community Southwest	48	53	60	7	12	B (67)	SI	57	3	0	57	3	0	54	6	5	53*	7	5	53	7	5	NP	NP	0
S2-49	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	47	52	60	8	13	B (67)	SI	57	3	0	56	4	0	54	6	3	54*	6	3	54	6	3	NP	NP	0
S2-50	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	46	51	59	8	13	B (67)	SI	56	3	0	56	3	0	53	6	3	53*	6	3	53	6	3	NP	NP	0
S2-51	Alt5-SJRB-NB-43	Residential	2	Future Community Southwest	51	55	65	10	14	B (67)	SI	61	4	0	59	6	2	57	8	2	57*	8	2	57	8	2	NP	NP	0
S2-52	Alt5-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	57	6	4	55	8	4	55*	8	4	55	8	4	NP	NP	0
S2-53	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	3	56	7	3	56*	7	3	56	7	3	NP	NP	0
S2-54	Alt5-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	4	56	7	4	56*	7	4	56	7	4	NP	NP	0

Table 3.15.U Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 5 Modified San Jacinto River Bridge Design Variation

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																										
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																				
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft				
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR			
S2-55	Alt5-SJRB-NB-43	Residential	3	Future Community Southwest	49	53	63	10	14	B (67)	SI	59	4	0	58	5	3	56	7	3	56*	7	3	56	7	3	NP	NP	0			
S2-56	Alt5-SJRB-NB-43	Residential	5	Future Community Southwest	47	52	63	11	16	B (67)	SI	59	4	0	58	5	5	56	7	5	56*	7	5	56	7	5	NP	NP	0			

Source: *Final Noise Study Report* (January 2012).
See following page for table footnotes and acronym/abbreviation definitions.

[1] I.L.: Insertion Loss.
[2] Numbers in **bold** represent noise levels that approach or exceed the NAC.
[3] A/E = Approach or exceed the NAC.
[4] Underlined noise levels have been attenuated by at least 5 dB (i.e., feasible barrier height).
[5] NP = Not Permitted. Noise barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.
* Minimum height needed to break the line of sight between 11.5 ft truck stack and first-row receptors.

Alt = Alternative
dB = decibels
dBA $L_{eq}(h)$ = equivalent continuous sound level per hour measured in A-weighted decibels
ft = foot/feet
NAC = Noise Abatement Criteria
NB = Noise Barrier
NBR = Number of Benefited Residences
SI = A substantial increase where predicted worst-hour design year noise levels exceed existing worst-hour noise levels by 12 dB.
SJRB = San Jacinto River Bridge (Design Variation)

Table 3.15.V Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified San Jacinto River Bridge Design Variation

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-16		Residential	3	Future Community Southwest	43	48	50	2	7	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-17		Residential	4	Future Community Southwest	44	49	52	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-18		Residential	3	Future Community Southwest	46	51	54	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-19		Residential	4	Future Community Southwest	47	52	56	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-20		Residential	2	Future Community Southwest	49	54	59	5	10	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-21		Residential	3	Future Community Southwest	51	55	60	5	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-22		Residential	4	Future Community Southwest	51	55	60	5	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-23		Residential	3	Future Community Southwest	43	48	51	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-24		Residential	5	Future Community Southwest	45	50	54	4	9	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-25		Residential	5	Future Community Southwest	47	52	55	3	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-26		Residential	3	Future Community Southwest	49	53	57	4	8	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S2-27	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	59	2	0	58	3	0	57	4	0	56[4]*	5	3	55	6	3	NP[5]	NP	0
S2-28	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	61	5	10	B (67)	--	58	3	0	58	3	0	56	5	3	55*	6	3	54	7	3	NP	NP	0
S2-29	Alt9-SJRB-NB-43	Residential	2	Future Community Southwest	51	55	60	5	9	B (67)	--	58	2	0	58	2	0	56	4	0	55*	5	2	54	6	2	NP	NP	0
S2-30	Alt9-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	56	3	8	B (67)	--	55	1	0	55	1	0	54	2	0	53*	3	0	53	3	0	NP	NP	0
S2-31	Alt9-SJRB-NB-43	Residential	1	Future Community Southwest	48	53	58	5	10	B (67)	--	56	2	0	56	2	0	55	3	0	53*	5	1	53	5	1	NP	NP	0
S2-32	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	49	54	59	5	10	B (67)	--	58	1	0	57	2	0	56	3	0	54*	5	3	53	6	3	NP	NP	0
S2-33	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	63	7	12	B (67)	SI	60	3	0	59	4	0	58	5	3	56*	7	3	55	8	3	NP	NP	0
S2-34	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	50	55	63	8	13	B (67)	SI	59	4	0	59	4	0	58	5	3	55*	8	3	55	8	3	NP	NP	0
S2-35	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	47	51	58	7	11	B (67)	--	55	3	0	54	4	0	53	5	3	51*	7	3	51	7	3	NP	NP	0
S2-36	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	48	53	61	8	13	B (67)	SI	58	3	0	57	4	0	56	5	3	54*	7	3	53	8	3	NP	NP	0
S2-37	Alt9-SJRB-NB-43	Residential	5	Future Community Southwest	47	52	59	7	12	B (67)	SI	56	3	0	55	4	0	54	5	5	52*	7	5	51	8	5	NP	NP	0
S2-38	Alt9-SJRB-NB-43	Residential	5	Future Community Southwest	52	57	**69**[2]	12	A/E[3]	B (67)	SI	63	6	5	62	7	5	60	9	5	58*	11	5	57	12	5	NP	NP	0
S2-39	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	52	57	**66**	9	A/E	B (67)	SI	62	4	0	62	4	0	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-40	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	52	57	**67**	10	A/E	B (67)	SI	63	4	0	62	5	3	59	8	3	58*	9	3	57	10	3	NP	NP	0
S2-41	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	A/E	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-42	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	51	56	**66**	10	A/E	B (67)	SI	62	4	0	61	5	3	59	7	3	58*	8	3	57	9	3	NP	NP	0
S2-43	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	3	58	7	3	57*	8	3	56	9	3	NP	NP	0
S2-44	Alt9-SJRB-NB-43	Residential	2	Future Community Southwest	50	55	65	10	15	B (67)	SI	61	4	0	60	5	2	58	7	2	57*	8	2	56	9	2	NP	NP	0
S2-45	Alt9-SJRB-NB-43	Residential	4	Future Community Southwest	51	56	**66**	10	A/E	B (67)	SI	62	4	0	61	5	4	58	8	4	57*	9	4	56	10	4	NP	NP	0
S2-46	Alt9-SJRB-NB-43	Residential	5	Future Community Southwest	49	54	63	9	14	B (67)	SI	59	4	0	58	5	5	56	7	5	55*	8	5	54	9	5	NP	NP	0
S2-47	Alt9-SJRB-NB-43	Residential	4	Future Community Southwest	49	54	61	7	12	B (67)	SI	58	3	0	57	4	0	55	6	4	54*	7	4	53	8	4	NP	NP	0
S2-48	Alt9-SJRB-NB-43	Residential	5	Future Community Southwest	48	53	61	8	13	B (67)	SI	57	4	0	57	4	0	55	6	5	53*	8	5	53	8	5	NP	NP	0
S2-49	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	47	52	60	8	13	B (67)	SI	57	3	0	56	4	0	54	6	3	53*	7	3	52	8	3	NP	NP	0
S2-50	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	46	51	60	9	14	B (67)	SI	56	4	0	56	4	0	53	7	3	52*	8	3	52	8	3	NP	NP	0
S2-51	Alt9-SJRB-NB-43	Residential	2	Future Community Southwest	51	55	65	10	14	B (67)	SI	61	4	0	59	6	2	57	8	2	56*	9	2	56	9	2	NP	NP	0
S2-52	Alt9-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	57	6	4	55	8	4	54*	9	4	54	9	4	NP	NP	0
S2-53	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0
S2-54	Alt9-SJRB-NB-43	Residential	4	Future Community Southwest	48	53	63	10	15	B (67)	SI	59	4	0	58	5	4	56	7	4	55*	8	4	54	9	4	NP	NP	0

Table 3.15.V Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternative 9 Modified San Jacinto River Bridge Design Variation

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA $L_{eq}(h)$	2040 Worst-Hour Noise Levels, dBA $L_{eq}(h)$																									
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																		
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			$L_{eq}(h)$	I.L.[1]	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
S2-55	Alt9-SJRB-NB-43	Residential	3	Future Community Southwest	49	53	63	10	14	B (67)	SI	59	4	0	58	5	3	56	7	3	55*	8	3	54	9	3	NP	NP	0
S2-56	Alt9-SJRB-NB-43	Residential	5	Future Community Southwest	47	52	63	11	16	B (67)	SI	59	4	0	58	5	5	56	7	5	55*	8	5	54	9	5	NP	NP	0

Source: *Final Noise Study Report* (January 2012).
See following page for table footnotes and acronym/abbreviation definitions.

[1] I.L.: Insertion Loss.
[2] Numbers in **bold** represent noise levels that approach or exceed the NAC.
[3] A/E = Approach or exceed the NAC.
[4] Underlined noise levels have been attenuated by at least 5 dB (i.e., feasible barrier height).
[5] NP = Not Permitted. Noise barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.
* Minimum height needed to break the line of sight between 11.5 ft truck stack and first-row receptors.

Alt = Alternative
dB = decibels
dBA $L_{eq}(h)$ = equivalent continuous sound level per hour measured in A-weighted decibels
ft = foot/feet
NAC = Noise Abatement Criteria
NB = Noise Barrier
NBR = Number of Benefited Residences
SI = A substantial increase where predicted worst-hour design year noise levels exceed existing worst-hour noise levels by 12 dB.
SJRB = San Jacinto River Bridge (Design Variation)

Table 3.15.W Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for San Jacinto North Design Variation

Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA L_{eq}(h)	2040 Worst-Hour Noise Levels, dBA L_{eq}(h)																							
						2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																	
												6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
						Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			L_{eq}(h)	I.L.[1]	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR
S3-1a		Agricultural	1	Ramona Expressway	48	53	63	10	15	F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-1	SJN-NB-49	Residential	1	Ramona Expressway	56	61	**69**[2]	8	13	B (67)	A/E[3]	63[4]	6	1	62	7	1	61	8	1	59*	10	1	58	11	1	NP[5]	NP	0
S3-2	SJN-NB-49	Residential	1	Ramona Expressway	45	50	64	14	19	B (67)	SI	59	5	1	58	6	1	57	7	1	56*	9	1	55	9	1	NP	NP	0
S3-3	SJN-NB-49	Residential	1	Ramona Expressway	47	52	65	13	18	B (67)	SI	60	5	1	59	6	1	58	7	1	57*	8	1	56	9	1	NP	NP	0
S3-11		Residential	1	Sanderson Avenue	64	**68**	62	-6	-2	B (67)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S3-12	SJN-NB-53/54	Residential	1	Ramona Boulevard	48	51	62	11	14	B (67)	SI	60	2	0	59	3	0	59	3	0	58	4	0	57*	5	1	NP	NP	0
S3-13	SJN-NB-53/54	Residential	1	Ramona Boulevard	46	49	61	12	15	B (67)	SI	57	4	0	57	4	0	56	5	1	56	5	1	55*	6	1	NP	NP	0

Source: *Final Noise Study Report* (January 2012).

[1] I.L.: Insertion Loss.

[2] Numbers in **bold** represent noise levels that approach or exceed the NAC.

[3] A/E = Approach or exceed the NAC.

[4] Underlined noise levels have been attenuated by at least 5 dB (i.e., feasible barrier height).

[5] NP = Not Permitted. Noise barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.

* Minimum height needed to break the line of sight between 11.5 ft truck stack and first-row receptors.

dB = decibels
dBA L_{eq}(h) = equivalent continuous sound level per hour measured in A-weighted decibels
ft = foot/feet
NAC = Noise Abatement Criteria
NB = Noise Barrier
NBR = Number of Benefited Residences
SI = A substantial increase where predicted worst-hour design year noise levels exceed existing worst-hour noise levels by 12 dB.
SJN = San Jacinto North (Design Variation)

Table 3.15.X Existing and Predicted 2040 Noise Levels and Noise Barrier Analysis for Alternatives 5 Modified and 9 Modified Interior/Exterior

Alternative	Receptor No.	NB No.	Land Use	No. of Dwelling Units	Location	Existing Noise Level, dBA L_{eq}(h)	2040 Worst-Hour Noise Levels, dBA L_{eq}(h)																									
							2040 Noise Level				Activity Category (NAC)	Impact Type	Noise Prediction With Barrier, Barrier Insertion Loss, and Number of Benefited Receptors																			
													6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
							Without Project	With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions			L_{eq}(h)	I.L.[1]	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR
5 Mod	Int/Ext 2	Alt5-NB-5	School	2[2]	Nevada Road	**66**[3]	**68**	**73**	5	7	C (67)	A/E[4]	**70**	3	0	**67**[5]	6	2	**66***	7	2	65	8	2	64	9	2	64	9	2
9 Mod	Int/Ext 1	Alt9-NB-1	Church	1	Markham Street	**71**	**72**	**78**	6	7	C (67)	A/E	**69**	9	1	**68**	10	1	65	13	1	64*	14	1	63	15	1	NP	NP	0
	Int/Ext 2	Alt9-NB-5	School	2[2]	Nevada Road	**66**	**68**	**70**	2	4	C (67)	A/E	**67**	3	0	65	5	2	64*	6	2	63	7	2	62	8	2	62	8	2

Source: *Final Noise Study Report* (January 2012).

[1] I.L.: Insertion Loss.

[2] 100 ft frontage units were used to determine the number of benefited residences for nonresidential land uses.

[3] Numbers in **bold** represent noise levels that approach or exceed the NAC.

[4] A/E = Approach or exceed the NAC.

[5] Underlined noise levels have been attenuated by at least 5 dB (i.e., feasible barrier height).

* Minimum height needed to break the line of sight between 11.5 ft truck stack and first-row receptors.

Alt = Alternative
dB = decibels
dBA L_{eq}(h) = equivalent continuous sound level per hour measured in A-weighted decibels
ft = foot/feet
Int/Ext = Interior/Exterior
Mod = Modified
NAC = Noise Abatement Criteria
NB = Noise Barrier
NBR = Number of Benefited Residences
SI = A substantial increase where predicted worst-hour design year noise levels exceed existing worst-hour noise levels by 12 dB.

3.15.3 Environmental Consequences

The proposed project is a federally funded Type I project, involving improvements that would physically alter the vertical and horizontal alignment of the existing roadway and requiring a review of impacts from potential traffic noise.

3.15.3.1 Permanent Impacts

Build Alternatives

Traffic Noise Impacts

Potential long-term noise impacts associated with project operations are solely from traffic noise. Traffic noise was evaluated for the future No Build Alternative and Alternatives 4 Modified, 5 Modified, and 9 Modified for worst-case conditions.

The predicted future worst-case traffic noise levels for Alternatives 4 Modified, 5 Modified, and 9 Modified at the representative sensitive receptor locations within the project area were determined assuming the existing noise walls were in place, and with no new modeled barriers using the worst-case traffic volumes. The existing traffic noise levels and predicted future traffic noise levels at all of the receptors were modeled using the selected traffic volumes among a.m. and p.m. peak volumes from the *Traffic Technical Report* (February 2012), and/or worst-case noise traffic volumes (level of service [LOS] D/E traffic volumes). The p.m. peak volumes from the traffic report were selected since they are generally higher than the a.m. peak volumes. If the a.m. peak volumes are 10 percent higher than the p.m. peak volumes for a given roadway segment link, the a.m. peak volumes would be selected for that segment link. The selected a.m. or p.m. peak traffic volume would then be compared to the worst-case traffic volume, and whichever is less would be selected and used for the noise modeling work. As a result, the traffic assumptions for the noise modeling represent the worst-case analysis.

The Traffic Noise Model 2.5 is sensitive to the volume of trucks on the roadway because trucks contribute disproportionally to traffic noise. Truck percentages on the I-215 mainline, SR-79 mainline, and ramps were obtained from the *Caltrans Annual Average Daily Trucks on the California State Highway System* (Caltrans 2009), because vehicle distributions obtained from Caltrans were more representative for the study area. Also, vehicle distributions for high-occupancy vehicles (HOVs) were estimated based on the I-215 mainline distribution rate. The estimated truck percentages on the MCP mainline and ramps obtained from traffic counts collected during ambient noise level measurements were used in the noise study because vehicle distributions obtained from these traffic counts were representative of the

study area where the MCP would be located. Truck percentages on the adjacent local streets obtained from traffic counts collected during ambient noise level measurements were used because vehicle distributions obtained from traffic counts were representative of the study area. Table 3.15.Y shows the vehicle distribution and vehicle speeds for each vehicle category and roadway within the project area used to calculate existing and 2040 traffic noise levels.

Traffic noise impacts result from one or more of the following occurrences: (1) an increase of 12 dB or more over their corresponding modeled existing noise levels, or (2) predicted noise levels approach or exceed the NAC. When traffic noise impacts have been identified, noise abatement measures must be considered.

Tables 3.15.Q through 3.15.X summarize the traffic noise modeling results for existing and 2040 conditions with and without the MCP project. Modeled 2040 traffic noise levels with the project (Alternatives 4 Modified, 5 Modified, and 9 Modified with Design Variations) were compared to existing conditions and to 2040 no project conditions. The comparison to existing conditions is included in the analysis to identify potential traffic noise impacts under 23 CFR 772. The comparison to the 2040 no project conditions indicates the direct effect of the project.

A total of 15 of 337, 14 of 358, and 10 of 355 modeled receptors under Alternatives 4 Modified, 5 Modified, and 9 Modified, respectively, approach or exceed the 67 dBA L_{eq} NAC for Activity Categories B and C under the 2040 no build traffic noise conditions. Of the 337 modeled receptors under the Alternative 4 Modified traffic noise conditions, 73 receptors approach or exceed the 67 dBA L_{eq} NAC, and 133 receptors would experience a substantial increase in noise of 12 dB or more over their corresponding modeled existing noise level for Activity Categories B and C. Of the 358 modeled receptors under the Alternative 5 Modified traffic noise conditions, 69 receptors approach or exceed the 67 dBA L_{eq} NAC, and 151 receptors would experience a substantial increase in noise of 12 dB or more over their corresponding modeled existing noise level for Activity Categories B and C. Of the 355 modeled receptors under the Alternative 9 Modified traffic noise conditions, 66 receptors approach or exceed the 67 dBA L_{eq} NAC, and 150 receptors would experience a substantial increase in noise of 12 dB or more over their corresponding modeled existing noise level for Activity Categories B and C.

Table 3.15.Y Vehicle Distributions and Vehicle Speeds

Roadways	Traffic Volume	Truck Distributions for Noise Modeling (Auto/Med/Heavy)	Vehicle Speed (Auto/Med/Heavy)
I-215 mainline	1,950 vplph for LOS D/E, or existing/predicted future volume from the traffic report (whichever is less)	0.90/0.04/0.06[1]	65/65/55 mph
I-215 HOV	1,500 vplph for LOS D/E, or predicted future volume from the traffic report (whichever is less)	0.96/0.04/NA[1]	65/65/NA mph
Auxiliary lane	1,200 vplph for LOS D/E, or predicted future volume from the traffic report (whichever is less)	0.90/0.04/0.06[1]	65/65/55 mph
MCP mainline	1,950 vplph for LOS D/E, or existing/predicted future volume from the traffic report (whichever is less)	0.93/0.04/0.03[2]	70/70/60 mph
MCP connectors	1,500 vplph for LOS D/E , or predicted future volume from the report (whichever is less)	0.93/0.04/0.03[2] for MCP connectors.	50/50/45 mph
SR-79	1,950 vplph for LOS D/E, or existing/predicted future volume from the traffic report (whichever is less)	0.90/0.06/0.04[1]	65/65/55 mph
I-215, SR-79, and MCP ramps	1,200 vplph for LOS D/E, or existing/predicted future volume from the report (whichever is less)	0.90/0.04/0.06 for I-215 ramps[1] 0.90/0.06/0.04 for SR-79 ramps[1] 0.93/0.04/0.03[2] for MCP ramps[2]	45/45/40 mph
Adjacent local streets	763 vplph (1 lane/direction), 828 vplph (2 lane/direction, 836 vplph (3 lane/direction)[3] or existing/predicted future volume from the traffic report (whichever is less)	Traffic count during monitoring work[4]	Various

Source: *Final Noise Study Report* (January 2012).

[1] Truck percentages on the I-215 mainline, SR-79 mainline, and ramps obtained from the *Caltrans Annual Average Daily Trucks on the California State Highway System* (Caltrans 2009) because vehicle distributions obtained from Caltrans were more representative for the study area. Also vehicle distributions for HOVs were estimated based on the I-215 mainline distribution rate.

[2] Estimated truck percentages on the MCP mainline and ramps obtained from traffic counts collected during ambient noise level measurements were used because vehicle distributions obtained from traffic counts were representative for the study area where the MCP would be located.

[3] The worst-case LOS D/E on local roadways was assumed based on a Class II roadway from the Generalized Peak-Hour Two-Way Volumes for Florida's Urbanized Areas (Florida's Department of Transportation website: http://www.dot.state.fl.us/planning/systems/sm/los/PDFs/Tables 090409.pdf).

[4] Truck percentages on the adjacent local streets obtained from traffic counts collected during ambient noise level measurements were used because vehicle distributions obtained from traffic counts were representative for the study area.

Caltrans = California Department of Transportation
HOV = high-occupancy vehicle
I-215 = Interstate 215
LOS = level of service
MCP = Mid County Parkway
mph = miles per hour
SR-79 = State Route 79
vplph = vehicles per lane per hour

Noise Abatement Consideration

In accordance with 23 CFR 772 and the Caltrans *Traffic Noise Analysis Protocol*, noise abatement (attenuation) is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Potential noise abatement measures identified in the Caltrans *Traffic Noise Analysis Protocol* include:

- Avoiding the impact by using design alternatives such as altering the horizontal and/or vertical alignments of the project;
- Constructing noise barriers;
- Acquiring property to serve as a buffer zone between the noise source and the receptor;
- Using traffic management measures to regulate the types of vehicles and their speeds on the transportation facility; and
- Acoustically insulating public-use or nonprofit institutional structures.

All of these abatement options have been considered. However, because of the configuration and location of the MCP project, abatement in the form of noise barriers is the only abatement that is considered to be feasible.

Noise abatement measures in the form of noise barriers were evaluated when predicted future noise levels with the project would either approach or exceed the NAC or would experience a substantial noise increase of 12 dB or more over their corresponding modeled existing noise level. At each location, six noise barrier heights were analyzed: 6, 8, 10, 12, 14, and 16 ft. If necessary, an 18 ft high barrier would be evaluated in efforts to achieve a minimum noise level reduction of 7 dB, as required to be reasonable. Noise barriers with a height of 16 ft or 18 ft were not analyzed if the barrier would be located within 15 ft of the nearest travel lane (see Caltrans *Highway Design Manual*, Caltrans 2007).

The following noise barriers were analyzed to shield the receptor locations that would be exposed to traffic noise levels approaching or exceeding the NAC under Alternatives 4 Modified, 5 Modified, and 9 Modified where traffic noise impacts are predicted. Noise barriers for the approved future residential development were evaluated with the best available data at the time.

Alternative 4 Modified

- **Alternative (Alt) 4-Noise Barrier (NB)-1:** A 3,761 ft long barrier located on the east side of I-215, between Harley Knox Boulevard and the Ramona Expressway, was analyzed along the edge of shoulder line to shield Receptors S1-9, S1-11, S1-12, S1-12a, S1-12b, S1-14, S1-19, and S1-21.
- **Alt4-NB-2:** A 744 ft long barrier located on the west side of I-215, south of Orange Avenue, was analyzed along the property line to shield Receptor S1-43.
- **Alt4-NB-3:** A 228 ft long barrier located on the west side of I-215, south of Nuevo Road, was analyzed along the Nan Sanders Elementary School property line to shield Receptor S1-46.
- **Alt4-NB-4**: A 786 ft long barrier located on the east side of I-215, south of Nuevo Road, was analyzed along the residential property line to shield Receptors S1-48, S1-50, and S1-51.
- **Alt4-NB-6/7/12:** Because these three barriers overlap one another, Alt4-NB-6, Alt4-NB-7, and Alt4-NB-12 are referred to as one barrier in this discussion (Alt4-NB-6/7/12), one that comprises lengths of 10,644 ft, 1,412 ft, and 1,439 ft, respectively. Alt4-NB-6/7/12, located on the east side of the MCP mainline, between the Ramona Expressway and Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-73 through S1-85, S1-86, S1-87a, S1-96a, S1-89 through S1-108, S1-109a, and S1-110 through S1-112.
- **Alt4-NB-8:** A 4,330 ft long barrier located on the west side of the MCP mainline, south of the Ramona Expressway, was analyzed along the edge of shoulder to shield Receptors S1-67 through S1-72, S1-72c, and S1-72d.
- **Alt4-NB-9/10/15:** Because these three barriers overlap one another, Alt4-NB-9, Alt4-NB-10, and Alt4-NB-15 are referred to as one barrier in this discussion (Alt4-NB-9/10/15), one comprising lengths of 7,029 ft, 1,284 ft, and 1,255 ft, respectively. Alt4-NB-9/10/15, located on the west side of the MCP mainline, west of Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-88a, S1-88b, S1-118, S1-118a, S1-118b, and S1-119 through S1-122.
- **Alt4-NB-7/11/12:** Because these three barriers overlap one another, Alt4-NB-7, Alt4-NB-11, and Alt4-NB-12 are referred to as one barrier in this discussion (Alt4-NB-6/7/12), one comprising lengths of 1,412 ft, 3,176 ft, and 1,439 ft, respectively. Alt4-NB-7/11/12, located on the north side of the MCP mainline, east of Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-129 through S1-134 and S1-136 through S1-138.

- **Alt4-NB-10/14/15:** Because these three barriers overlap one another, Alt4-NB-10, Alt4-NB-14, and Alt4-NB-15 are referred to as one barrier in this discussion (Alt4-NB-10/14/15), one comprising lengths of 1,284 ft, 2,660 ft, and 1,255 ft, respectively. Alt4-NB-10/14/15, located on the south side of the MCP mainline, east of Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-168, S1-170 through S1-179, and S1-181 through S1-184.
- **Alt4-NB-13:** A 3,228 ft long barrier located on the north side of the MCP mainline, west of the Ramona Expressway, was analyzed within the limit of the proposed improvement line to shield Receptors S1-139 through S1-143, S1-145 through S1-147, and S1-149 through S1-155.
- **Alt4-NB-16:** A 2,469 ft long barrier located on the south side of the MCP mainline, west of Antelope Road, was analyzed within the limit of the proposed improvement line to shield Receptors S1-185 through S1-201.
- **Alt4-NB-41/42:** Because these two barriers overlap one another, Alt4-NB-41 and Alt4-NB-42 are referred to as one barrier in this discussion (Alt4-NB-41/42), one comprising lengths of 3,056 ft and 2,397 ft, respectively. Alt4-NB-41/42, located on the south side of the Ramona Expressway, east and west of Antelope Road, was analyzed along the edge of shoulder to shield Receptors S2-1 through S2-15.
- **Alt4-NB-43:** A 4,736 ft long barrier located on the south side of Ramona Expressway, west of Martin Street, was analyzed along the edge of shoulder line to shield Receptors S2-33, S2-34, and S2-36 through S2-56.
- **Alt4-NB-44:** A 5,213 ft long barrier located on the north side of the Ramona Expressway, between Reservoir Avenue and Town Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-60 through S2-65.
- **Alt4-NB-45:** A 5,704 ft long barrier located on the south side of the Ramona Expressway between Reservoir Avenue and Town Center Boulevard was analyzed along the edge of shoulder line to shield Receptors S2-69 through S2-72, S2-77a, S2-78, and S2-79.
- **Alt4-NB-46:** A 6,096 ft long barrier located on the north side of the Ramona Expressway, between Town Center Boulevard and Park Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-80 through S2-85.
- **Alt4-NB-47:** A 5,699 ft long barrier located on the south side of the Ramona Expressway, between Town Center Boulevard and Park Center Boulevard,

was analyzed along the edge of shoulder line to shield Receptors S2-89 through S2-93.

- **Alt4-NB-48:** An 8,964 ft long barrier located on the south side of the Ramona Expressway, east of Park Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-94 through S2-99.
- **Alt4-NB-49:** A 4,695 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the edge of shoulder line to shield Receptors S3-1 through S3-4.
- **Alt4-NB-50:** A 99 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the residential property line to shield Receptor S3-5.
- **Alt4-NB-51:** A 124 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the residential property line to shield Receptor S3-6.
- **Alt4-NB-52/53/54:** Because these three barriers overlap one another, Alt4-NB-52, Alt4-NB-53, and Alt4-NB-54 are referred to as one barrier in this discussion (Alt4-NB-52/53/54), one comprising lengths of 2,601 ft, 1,676 ft, and 1,218 ft, respectively. Alt4-NB-52/53/54, located on the east side of SR-79, south of the Ramona Expressway, was analyzed along the edge of shoulder to shield Receptors S3-12 and S3-13.

Alternative 5 Modified

- **Alt5-NB-1:** A 3,659 ft long barrier located on the east side of I-215, between Harley Knox Boulevard and the Ramona Expressway, was analyzed along the edge of shoulder line to shield Receptors S1-9 through S1-12, S1-12a, S1-12b, S1-14, S1-19, and S1-21.
- **Alt5-NB-2:** A 744 ft long barrier located on the west side of I-215, south of Orange Avenue, was analyzed along the property line to shield Receptor S1-43.
- **Alt5-NB-3:** A 228 ft long barrier located on the west side of I-215, south of Nuevo Road, was analyzed along the Nan Sanders Elementary School property line to shield Receptor S1-46.
- **Alt5-NB-4**: A 786 ft long barrier located on the east side of I-215, south of Nuevo Road, was analyzed along the residential property line to shield Receptors S1-48, S1-50, and S1-51.

- **Alt5-NB-5:** A 254 ft long barrier located on the east side of I-215, south of the Ramona Expressway, was analyzed along the Val Verde High School property line to shield Receptor Interior/Exterior (Int/Ext) 2.
- **Alt5-NB-19:** A 589 ft long barrier located on the east side of Perris Boulevard, south side of the MCP eastbound on-ramp, was analyzed along the edge of shoulder to shield Receptors S1-202 through S1-204.
- **Alt5-NB-17/18/24:** Because these three barriers overlap one another, Alt5-NB-17, Alt5-NB-18, and Alt5-NB-24 are referred to as one barrier in this discussion (Alt5-NB-17/18/24), one comprising lengths of 7,394 ft, 866 ft, and 1,383 ft, respectively. Alt5-NB-17/18/24, located on the north side of the MCP mainline, between Perris Boulevard and Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-233 through S1-235, S1-235a, S1-255a, S1-255b, and S1-255 through S1-275.
- **Alt5-NB-20:** A 141 ft long barrier located on the east side of Perris Boulevard, on the south side of the MCP eastbound on-ramp, was analyzed along the residential property line to shield Receptor S1-205.
- **Alt5-NB-21/22/27:** Because these three barriers overlap one another, Alt5-NB-21, Alt5-NB-22, and Alt5-NB-27 are referred to as one barrier in this discussion (Alt5-NB-21/22/27), one comprising lengths of 8,583 ft, 1,291 ft, and 1,154 ft, respectively. Alt5-NB-21/22/27, located on the south side of the MCP mainline between Perris Boulevard and Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-211 through S1-218, S1-222 through S1-228, S1-228a through S1-228f, S1-237 through S1-254, S1-254a, S1-254b, S1-284, S1-284a, and S1-285.
- **Alt5-NB-23/24:** Because these two barriers overlap one another, Alt5-NB-23 and Alt5-NB-24 are referred to as one barrier in this discussion (Alt5-NB-23/24), one comprising lengths of 2,509 ft and 1,383 ft, respectively. Alt5-NB-23/24, located on the north side of the MCP mainline, east of Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-288 and S1-289.
- **Alt5-NB-26/27:** Because these two barriers overlap one another, Alt5-NB-26 and Alt5-NB-27 are referred to as one barrier in this discussion (Alt5-NB-26/27), one comprising lengths of 2,469 ft and 1,154 ft, respectively. Alt5-NB-26/27, located on the south side of the MCP mainline, east of Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-318 through S1-333 and S1-333a.

- **Alt5-NB-25:** A 3,116 ft long barrier located on the north side of the MCP mainline, west of the Ramona Expressway, was analyzed within the limit of the proposed improvement line to shield Receptors S1-290 through S1-295, S1-297 through S1-299, S1-301 through S1-305, and S1-308.
- **Alt5-NB-28:** A 2,458 ft long barrier located on the south side of the MCP mainline, west of Antelope Road, was analyzed within the limit of the proposed improvement line to shield Receptors S1-334 through S1-354.
- **Alt5-NB-41/42:** Because these two barriers overlap one another, Alt5-NB-41 and Alt5-NB-42 are referred to as one barrier in this discussion (Alt5-NB-41/42), one comprising lengths of 3,056 ft and 2,397 ft, respectively. Alt5-NB-41/42, located on the south side of the Ramona Expressway, east and west of Antelope Road, was analyzed along the edge of shoulder to shield Receptors S2-1 through S2-15.
- **Alt5-NB-43:** A 4,736 ft long barrier located on the south side of the Ramona Expressway, west of Martin Street, was analyzed along the edge of shoulder line to shield Receptors S2-33, S2-34, and S2-36 through S2-56.
- **Alt5-NB-44:** A 5,213 ft long barrier located on the north side of the Ramona Expressway, between Reservoir Avenue and Town Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-60 through S2-65.
- **Alt5-NB-45:** A 5,704 ft long barrier located on the south side of the Ramona Expressway, between Reservoir Avenue and Town Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-69 through S2-72, S2-77a, S2-78, and S2-79.
- **Alt5-NB-46:** A 6,096 ft long barrier located on the north side of the Ramona Expressway, between Town Center Boulevard and Park Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-80 through S2-85.
- **Alt5-NB-47:** A 5,699 ft long barrier located on the south side of the Ramona Expressway, between Town Center Boulevard and Park Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-89 through S2-93.
- **Alt5-NB-48:** An 8,964 ft long barrier located on the south side of the Ramona Expressway, east of Park Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-94 through S2-99.

- **Alt5-NB-49:** A 4,695 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the edge of shoulder line to shield Receptors S3-1 through S3-4.
- **Alt5-NB-50:** A 99 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the residential property line to shield Receptor S3-5.
- **Alt5-NB-51:** A 124 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the residential property line to shield Receptor S3-6.
- **Alt5-NB-52/53/54:** Because these three barriers overlap one another, Alt5-NB-52, Alt5-NB-53, and Alt5-NB-54 are referred to as one barrier in this discussion (Alt5-NB-52/53/54), one comprising lengths of 2,601 ft, 1,676 ft, and 1,218 ft, respectively. Alt5-NB-52/53/54, located on the east side of SR-79, south of the Ramona Expressway, was analyzed along the edge of shoulder to shield Receptors S3-12 and S3-13.

Alternative 9 Modified

- **Alt9-NB-1:** A 4,719 ft long barrier located on the east side of I-215, between Harley Knox Boulevard and Ramona Expressway, was analyzed along the edge of shoulder line to shield Receptors S1-7 through S1-12, S1-12a, S1-12b, S1-14, S1-16 through S1-18, S1-20, and S1-21.
- **Alt9-NB-2:** A 744 ft long barrier located on the west side of I-215, south of Orange Avenue, was analyzed along the property line to shield Receptor S1-43.
- **Alt9-NB-3:** A 228 ft long barrier located on the west side of I-215, south of Nuevo Road, was analyzed along the Nan Sanders Elementary School property line to shield Receptor S1-46.
- **Alt9-NB-5:** A 254 ft long barrier located on the east side of I-215, south of the Ramona Expressway, was analyzed along the Val Verde High School property line to shield Receptor Int/Ext 2.
- **Alt9-NB-29:** A 3,215 ft long barrier located on the north side of the MCP mainline, between Perris Boulevard and Redlands Avenue, was analyzed within the limit of the proposed improvement line to shield Receptors S1-358, S1-364, S1-365, and S1-367 through S1-379.
- **Alt9-NB-30:** A 2,750 ft long barrier located on the south side of the MCP mainline, between Perris Boulevard and Redlands Avenue, was analyzed

within the limit of the proposed improvement line to shield Receptors S1-382, S1-383, S1-386, S1-395, S1-396, and S1-402.

- **Alt9-NB-31/32/33:** Because these three barriers overlap one another, Alt9-NB-31, Alt9-NB-32, and Alt9-NB-33 are referred to as one barrier in this discussion (Alt9-NB-31/32/33), one comprising lengths of 5,136 ft, 987 ft, and 1,530 ft, respectively. Alt9-NB-31/32/33, located on the north side of the MCP mainline between Perris Boulevard and Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-404 through S1-407, S1-405a, S1-405b, S1-413a, and S1-413 through S1-446.
- **Alt9-NB-34/35/39:** Because these three barriers overlap one another, Alt9-NB-34, Alt9-NB-35, and Alt9-NB-39 are referred to as one barrier in this discussion (Alt9-NB-34/35/39), one comprising lengths of 5,191 ft, 1,397 ft, and 1,379 ft, respectively. Alt9-NB-34/35/39, located on the south side of the MCP mainline between Perris Boulevard and Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-408 through S1-412, S1-412a, S1-412b, and S1-447 through S1-449.
- **Alt9-NB-35/38/39:** Because these three barriers overlap one another, Alt9-NB-35, Alt9-NB-38, and Alt9-NB-39 are referred to as one barrier in this discussion (Alt9-NB-35/38/39), one comprising lengths of 1,397 ft, 2,198 ft, and 1,379 ft, respectively. Alt9-NB-35/38/39, located on the south side of the MCP mainline, east of Evans Road, was analyzed along the edge of shoulder to shield Receptors S1-408 and S1-478 through S1-493.
- **Alt9-NB-36:** A 1,005 ft long barrier located on the north side of the MCP mainline, east of Evans Road, was analyzed along the edge of shoulder to shield Receptor S1-452.
- **Alt9-NB-37:** A 3,036 ft long barrier located on the north side of the MCP mainline, west of Ramona Expressway, was analyzed within the limit of the proposed improvement line to shield Receptors S1-453 through S1-465, S1-467, and S1-468.
- **Alt9-NB-40:** A 3,459 ft long barrier located on the south side of the MCP mainline, west of Antelope Road, was analyzed within the limit of the proposed improvement line to shield Receptors S1-494 through S1-511.
- **Alt9-NB-41/42:** Because these two barriers overlap one another, Alt9-NB-41 and Alt9-NB-42 are referred to as one barrier in this discussion (Alt9-NB-41/42), one comprising lengths of 3,056 ft and 2,397 ft, respectively. Alt9-NB-41/42, located on the south side of the Ramona Expressway, east and west

of Antelope Road, was analyzed along the edge of shoulder to shield Receptors S2-1 through S2-15.

- **Alt9-NB-43:** A 4,736 ft long barrier located on the south side of the Ramona Expressway, west of Martin Street, was analyzed along the edge of shoulder line to shield Receptors S2-33, S2-34, and S2-36 through S2-56.
- **Alt9-NB-44:** A 5,213 ft long barrier located on the north side of the Ramona Expressway, between Reservoir Avenue and Town Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-60 through S2-65.
- **Alt9-NB-45:** A 5,704 ft long barrier located on the south side of the Ramona Expressway, between Reservoir Avenue and Town Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-69 through S2-72, S2-77a, S2-78, and S2-79.
- **Alt9-NB-46:** A 6,096 ft long barrier located on the north side of the Ramona Expressway, between Town Center Boulevard and Park Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-80 through S2-85.
- **Alt9-NB-47:** A 5,699 ft long barrier located on the south side of the Ramona Expressway, between Town Center Boulevard and Park Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-89 through S2-93.
- **Alt9-NB-48:** An 8,964 ft long barrier located on the south side of Ramona Expressway, east of Park Center Boulevard, was analyzed along the edge of shoulder line to shield Receptors S2-94 through S2-99.
- **Alt9-NB-49:** A 4,695 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the edge of shoulder line to shield Receptors S3-1 through S3-4.
- **Alt9-NB-50:** A 99 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the residential property line to shield Receptor S3-5.
- **Alt9-NB-51:** A 124 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the residential property line to shield Receptor S3-6.
- **Alt9-NB-52/53/54:** Because these three barriers overlap one another, Alt9 NB-52, Alt9-NB-53, and Alt9-NB-54 are referred to as one barrier in this discussion (Alt9-NB-52/53/54), one comprising lengths of 2,601 ft, 1,676 ft, and 1,218 ft, respectively. Alt9-NB-52/53/54, located on the east side of

SR-79, south of the Ramona Expressway, was analyzed along the edge of shoulder to shield Receptors S3-12 and S3-13.

Design Variations

The following is a discussion of noise abatement considered for two design variations, the San Jacinto North Design Variation (SJN DV) and the San Jacinto River Bridge Design Variation (SJRB DV), where traffic noise impacts are predicted. Noise barriers for the approved future residential development were evaluated with the best available data at the time.

- **Alt4-SJRB-NB-43:** A 4,736 ft long barrier located on the south side of the Ramona Expressway, west of Martin Street, was analyzed along the edge of shoulder line to shield Receptors S2-33, S2-34, and S2-36 through S2-56.
- **Alt5-SJRB-NB-43:** A 4,736 ft long barrier located on the south side of the Ramona Expressway, west of Martin Street, was analyzed along the edge of shoulder line to shield Receptors S2-33, S2-34, and S2-36 through S2-56.
- **Alt9-SJRB-NB-43:** A 4,736 ft long barrier located on the south side of the Ramona Expressway, west of Martin Street, was analyzed along the edge of shoulder line to shield Receptors S2-33, S2-34, and S2-36 through S2-56.
- **SJN-NB-49:** A 3,700 ft long barrier located on the north side of the Ramona Expressway, west of Warren Road, was analyzed along the edge of shoulder line to shield Receptors S3-1 through S3-4.
- **SJN-NB-53/54:** Because these two barriers overlap one another, SJN-NB-53 and SJN-NB-54 are referred to as one barrier in this discussion (SJN-NB-53/54), one comprising lengths of 3,143 ft and 1,177 ft, respectively. SJN-NB-53/54, located on the east side of SR-79, south of the Ramona Expressway, was analyzed along the edge of shoulder to shield Receptors S3-12 and S3-13.

Feasibility

A minimum reduction of 5 dBA must be achieved at an impacted receiver for the noise abatement measure to be considered feasible. The feasibility criterion is not necessarily a noise abatement design goal. Greater noise reductions are encouraged if they can be reasonably achieved. Feasibility may also be restricted by the following factors: (1) topography, (2) access requirement for driveways, (3) the presence of local cross streets, (4) underground utilities, (5) other noise sources in the area, and (6) safety considerations.

All the modeled noise barriers evaluated under all Build Alternatives were determined to be feasible except for NBs Alt4-NB-4 for Alternative 4 Modified; Alt5-NB-4 for Alternative 5 Modified; and Alt9-NB-4 for Alternative 9 Modified because they would not reduce noise levels by 5 dB or more. Table 3.15.Z lists all the noise barriers that were determined to be feasible. The locations of the feasible noise barriers for Alternatives 4 Modified, 5 Modified, 9 Modified, and the SJRB DV are shown on Figures 3.15.2; 3.15.3; 3.15.4; and 3.15.5 (which are provided following the last page of text in this section to minimize disruptions in the text for the reader).

Preliminary Determination

The preliminary reasonableness determination is made by calculating an allowance that is considered to be a reasonable amount of money, per benefited unit, to spend on noise abatement. This reasonable allowance is then compared to the engineer's cost estimate for the noise abatement. If the engineer's cost estimate is less than the allowance, the preliminary determination is that the abatement is reasonable. If the cost estimate is higher than the allowance, the preliminary determination is that abatement is not reasonable. Additionally, each noise barrier must provide at least 7 dB of noise reduction at one or more benefited receptors to meet the noise reduction design goal and be considered reasonable. As discussed above, the total reasonable allowance was calculated by multiplying the number of benefited receptors by the 2011 allowance of $55,000.[1] The estimated construction cost of the feasible noise barriers were developed by the Project Engineer.

Table 3.15.Z lists all of the feasible noise barriers along with their height, approximate length, number of benefited residences, high barrier attenuation, the total reasonable allowance, the estimated noise barrier construction cost, whether the barrier was feasible, and whether the barrier was reasonable. The reasonable noise barriers are shown in **bold face** type for all Build Alternatives. As shown in Table 3.15.Z, NBs Alt4-NB-43, Alt4-NB-44, Alt4-NB-50, and Alt4-SJRB-43 for Alternative 4 Modified; Alt5-NB-19, Alt5-NB-43, Alt5-NB-44, Alt5-NB-50, and Alt5-SJRB-43 for Alternative 5 Modified; and Alt9-NB-31/32/33, Alt9-NB-43, Alt9-NB-44, Alt9-NB-50, and Alt9-SJRB-43 for Alternative 9 Modified were

[1] The 2011 allowance of $55,000 is based on the published Caltrans annual Construction Price Index (CPI) in effect at the time the analysis was prepared. When the MCP project undergoes final design, the base allowance will be adjusted based on the most recent annual CPI found on the Caltrans website at the time of final design.

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
4 Modified	Alt4-NB-1	6	Yes	20	7	$1,100,000	$1,353,960	No
		8	Yes	20	8	$1,100,000	$1,805,280	No
		10	Yes	21	10	$1,155,000	$2,256,600	No
		12[2]	Yes	22	11	$1,210,000	$2,707,920	No
		14	Yes	22	12	$1,210,000	$3,159,240	No
	Alt4-NB-2	10[2]	Yes	4	6	$220,000	$446,400	No
		12	Yes	4	6	$220,000	$535,680	No
		14	Yes	4	7	$220,000	$624,960	No
		16	Yes	4	8	$220,000	$714,240	No
	Alt4-NB-3	6[2]	Yes	1	6	$55,000	$134,080[5]	No
		8	Yes	1	9	$55,000	$161,440[5]	No
		10	Yes	1	10	$55,000	$188,800[5]	No
		12	Yes	1	12	$55,000	$216,160[5]	No
		14	Yes	1	13	$55,000	$243,520[5]	No
		16	Yes	1	14	$55,000	$270,880[5]	No
	Alt4-NB- 6/7/12	6	Yes	80	6	$4,400,000	$4,858,200	No
		8	Yes	108	7	$5,940,000	$6,477,600	No
		10	Yes	140	8	$7,700,000	$8,097,000	No
		12[2]	Yes	172	9	$9,460,000	$9,716,400	No
		14	Yes	199	10	$10,945,000	$11,335,800	No
	Alt4-NB-7/11/12	6	Yes	1	6	$55,000	$2,169,720	No
		8	Yes	3	7	$165,000	$2,892,960	No
		10	Yes	8	8	$440,000	$3,616,200	No
		12	Yes	9	9	$495,000	$4,339,440	No
		14[2]	Yes	9	10	$495,000	$5,062,680	No
	Alt4-NB-8	6	Yes	6	6	$330,000	$1,558,800	No
		8	Yes	9	7	$495,000	$2,078,400	No
		10	Yes	15	8	$825,000	$2,598,000	No
		12[2]	Yes	21	10	$1,155,000	$3,117,600	No
		14	Yes	21	11	$1,155,000	$3,637,200	No
	Alt4-NB-9/10/15	6	Yes	2	5	$110,000	$3,444,480	No
		8	Yes	4	5	$220,000	$4,592,640	No
		10	Yes	4	6	$220,000	$5,740,800	No
		12	Yes	9	8	$495,000	$6,888,960	No

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
4 Modified	Alt4-NB-9/10/15	14[2]	Yes	10	9	$550,000	$8,037,120	No
	Alt4-NB-10/14/15	6	Yes	1	6	$55,000	$1,871,640	No
		8	Yes	3	7	$165,000	$2,495,520	No
		10	Yes	9	8	$495,000	$3,119,400	No
		12	Yes	16	10	$880,000	$3,743,280	No
		14[2]	Yes	16	11	$880,000	$4,367,160	No
	Alt4-NB-13	12[2]	Yes	2	5	$110,000	$2,324,160	No
		14	Yes	5	6	$275,000	$2,711,520	No
		16	Yes	5	6	$275,000	$3,098,880	No
		18	Yes	5	7	$275,000	$3,486,240	No
	Alt4-NB-16	10	Yes	3	5	$165,000	$1,481,400	No
		12	Yes	3	5	$165,000	$1,777,680	No
		14	Yes	3	6	$165,000	$2,073,960	No
		16	Yes	3	7	$165,000	$2,370,240	No
	Alt4-NB-41/42	8	Yes	3	5	$165,000	$2,617,440	No
		10	Yes	26	6	$1,430,000	$3,271,800	No
		12	Yes	41	7	$2,255,000	$3,926,160	No
		14[2]	Yes	44	7	$2,420,000	$4,580,520	No
	Alt4-NB-43	6	Yes	17	6	$935,000	$1,704,960	No
		8	**Yes**	**52**	**7**	**$2,860,000**	**$2,273,280**	**Yes**
		10	**Yes**	**89**	**9**	**$4,895,000**	**$2,841,600**	**Yes**
		12[2]	**Yes**	**96**	**11**	**$5,280,000**	**$3,409,920**	**Yes**
		14	**Yes**	**96**	**12**	**$5,280,000**	**$3,978,240**	**Yes**
	Alt4-NB-44	**6**	**Yes**	**39**	**7**	**$2,145,000**	**$1,876,680**	**Yes**
		8	Yes	40	8	$2,200,000	$2,502,240	No
		10	Yes	48	9	$2,640,000	$3,127,800	No
		12	Yes	48	10	$2,640,000	$3,753,360	No
		14	Yes	56	11	$3,080,000	$4,378,920	No
	Alt4-NB-45	6	Yes	10	5	$550,000	$2,053,440	No
		8	Yes	27	6	$1,485,000	$2,737,920	No
		10	Yes	31	8	$1,705,000	$3,422,400	No
		12	Yes	40	10	$2,200,000	$4,106,880	No
		14[2]	Yes	42	11	$2,310,000	$4,791,360	No

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
4 Modified	Alt4-NB-46	6	Yes	2	6	$110,000	$2,194,560	No
		8	Yes	2	7	$110,000	$2,926,080	No
		10	Yes	6	8	$330,000	$3,657,600	No
		12	Yes	6	10	$330,000	$4,389,120	No
		14	Yes	6	10	$330,000	$5,120,640	No
	Alt4-NB-47	6	Yes	22	6	$1,210,000	$2,051,640	No
		8	Yes	32	7	$1,760,000	$2,735,520	No
		10	Yes	40	8	$2,200,000	$3,419,400	No
		12	Yes	50	11	$2,750,000	$4,103,280	No
		14	Yes	50	12	$2,750,000	$4,787,160	No
	Alt4-NB-48	6	Yes	28	7	$1,540,000	$3,227,040	No
		8	Yes	44	8	$2,420,000	$4,302,720	No
		10	Yes	44	9	$2,420,000	$5,378,400	No
		12	Yes	52	12	$2,860,000	$6,454,080	No
		14[2]	Yes	52	13	$2,860,000	$7,529,760	No
	Alt4-NB-49	6	Yes	3	6	$165,000	$1,690,200	No
		8	Yes	4	8	$220,000	$2,253,600	No
		10	Yes	4	9	$220,000	$2,817,000	No
		12[2]	Yes	4	11	$220,000	$3,380,400	No
		14	Yes	4	12	$220,000	$3,943,800	No
	Alt4-NB-50	6	Yes	1	5	$55,000	$36,640[5]	Yes
		8[2]	**Yes**	**1**	**8**	**$55,000**	**$48,520[5]**	**Yes**
		10	Yes	1	10	$55,000	$60,400[5]	No
		12	Yes	1	11	$55,000	$72,280[5]	No
		14	Yes	1	12	$55,000	$84,160[5]	No
		16	Yes	1	12	$55,000	$96,040[5]	No
	Alt4-NB-51	10[2]	Yes	1	5	$55,000	$75,400[5]	No
		12	Yes	1	6	$55,000	$90,280[5]	No
		14	Yes	1	7	$55,000	$105,160[5]	No
		16	Yes	1	7	$55,000	$120,040[5]	No
	Alt4-NB-52/53/54	12[2]	Yes	2	5	$110,000	$3,956,400	No[4]
		14	Yes	2	5	$110,000	$4,615,800	No[4]

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
5 Modified	Alt5-NB-1	6	Yes	15	8	$825,000	$1,317,240	No
		8	Yes	15	9	$825,000	$1,756,320	No
		10	Yes	15	10	$825,000	$2,195,400	No
		12[2]	Yes	16	12	$880,000	$2,634,480	No
		14	Yes	16	13	$880,000	$3,073,560	No
	Alt5-NB-2	10[2]	Yes	4	5	$220,000	$446,400	No
		12	Yes	4	6	$220,000	$535,680	No
		14	Yes	4	7	$220,000	$624,960	No
		16	Yes	4	7	$220,000	$714,240	No
	Alt5-NB-3	6[2]	Yes	1	6	$55,000	$134,080[5]	No
		8	Yes	1	9	$55,000	$161,440[5]	No
		10	Yes	1	11	$55,000	$188,800[5]	No
		12	Yes	1	12	$55,000	$216,160[5]	No
		14	Yes	1	13	$55,000	$243,520[5]	No
		16	Yes	1	14	$55,000	$270,880[5]	No
	Alt5-NB-5	8	Yes	2	6	$110,000	$123,495[5]	No
		10[2]	Yes	2	7	$110,000	$153,975[5]	No
		12	Yes	2	8	$110,000	$184,455[5]	No
		14	Yes	2	9	$110,000	$214,935[5]	No
		16	Yes	2	9	$110,000	$245,415[5]	No
	Alt5-NB-19	**6**	**Yes**	**6**	**8**	**$330,000**	**$212,040**	**Yes**
		8	**Yes**	**6**	**10**	**$330,000**	**$282,720**	**Yes**
		10[2]	Yes	6	12	$330,000	$353,400	No
		12	Yes	6	13	$330,000	$424,080	No
		14	Yes	6	13	$330,000	$494,760	No
		16	Yes	6	14	$330,000	$565,440	No
	Alt5-NB-20	10[2]	Yes	1	5	$55,000	$92,850[5]	No
		12	Yes	1	6	$55,000	$109,770[5]	No
		14	Yes	1	7	$55,000	$126,690[5]	No
		16	Yes	1	7	$55,000	$143,610[5]	No

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
5 Modified	Alt5-NB-21/22/27	6	Yes	19	7	$1,045,000	$3,970,080	No
		8	Yes	62	10	$3,410,000	$5,293,440	No
		10	Yes	90	11	$4,950,000	$6,616,800	No
		12[2]	Yes	129	12	$7,095,000	$7,940,160	No
		14	Yes	131	13	$7,205,000	$9,263,520	No
	Alt5-NB-17/18/24	6	Yes	1	5	$55,000	$3,471,480	No
		8	Yes	3	6	$165,000	$4,628,640	No
		10	Yes	12	8	$660,000	$5,785,800	No
		12	Yes	39	9	$2,145,000	$6,942,960	No
		14[2]	Yes	96	10	$5,280,000	$8,100,120	No
	Alt5-NB- 23/24	10	Yes	1	5	$55,000	$2,335,200	No
		12	Yes	2	7	$110,000	$2,802,240	No
		14	Yes	2	7	$110,000	$3,269,280	No
	Alt5-NB-25	10	Yes	3	5	$165,000	$1,869,600	No
		12	Yes	3	6	$165,000	$2,243,520	No
		14	Yes	3	6	$165,000	$2,617,440	No
		16	Yes	3	7	$165,000	$2,991,360	No
	Alt5-NB-26/27	6	Yes	1	6	$55,000	$1,304,280	No
		8	Yes	5	7	$275,000	$1,739,040	No
		10	Yes	11	8	$605,000	$2,173,800	No
		12	Yes	17	9	$935,000	$2,608,560	No
		14[2]	Yes	17	10	$935,000	$3,043,320	No
	Alt5-NB-28	6	Yes	5	6	$275,000	$884,880	No
		8	Yes	5	7	$275,000	$1,179,840	No
		10	Yes	5	8	$275,000	$1,474,800	No
		12	Yes	8	9	$440,000	$1,769,760	No
		14	Yes	8	9	$440,000	$2,064,720	No
		16	Yes	8	10	$440,000	$2,359,680	No
	Alt5-NB-41/42	10	Yes	12	5	$660,000	$3,271,800	No
		12	Yes	32	6	$1,760,000	$3,926,160	No
		14[2]	Yes	44	7	$2,420,000	$4,580,520	No

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
5 Modified	Alt5-NB-43	6	Yes	14	6	$770,000	$1,704,960	No[4]
		8	**Yes**	**52**	**7**	**$2,860,000**	**$2,273,280**	**Yes**
		10	**Yes**	**89**	**9**	**$4,895,000**	**$2,841,600**	**Yes**
		12[2]	**Yes**	**96**	**11**	**$5,280,000**	**$3,409,920**	**Yes**
		14	**Yes**	**96**	**12**	**$5,280,000**	**$3,978,240**	**Yes**
	Alt5-NB-44	**6**	**Yes**	**39**	**7**	**$2,145,000**	**$1,876,680**	**Yes**
		8	Yes	40	8	$2,200,000	$2,502,240	No
		10	Yes	48	9	$2,640,000	$3,127,800	No
		12	Yes	48	10	$2,640,000	$3,753,360	No
		14	Yes	56	11	$3,080,000	$4,378,920	No
	Alt5-NB-45	6	Yes	10	5	$550,000	$2,053,440	No[4]
		8	Yes	27	6	$1,485,000	$2,737,920	No[4]
		10	Yes	38	8	$2,090,000	$3,422,400	No
		12	Yes	40	10	$2,200,000	$4,106,880	No
		14[2]	Yes	42	11	$2,310,000	$4,791,360	No
	Alt5-NB-46	6	Yes	2	6	$110,000	$2,194,560	No[4]
		8	Yes	3	7	$165,000	$2,926,080	No
		10	Yes	6	8	$330,000	$3,657,600	No
		12	Yes	6	10	$330,000	$4,389,120	No
		14	Yes	6	11	$330,000	$5,120,640	No
	Alt5-NB-47	6	Yes	10	6	$550,000	$2,051,640	No[4]
		8	Yes	32	7	$1,760,000	$2,735,520	No
		10	Yes	32	8	$1,760,000	$3,419,400	No
		12	Yes	50	11	$2,750,000	$4,103,280	No
		14	Yes	50	12	$2,750,000	$4,787,160	No
	Alt5-NB-48	6	Yes	28	7	$1,540,000	$3,227,040	No
		8	Yes	28	8	$1,540,000	$4,302,720	No
		10	Yes	44	9	$2,420,000	$5,378,400	No
		12	Yes	52	12	$2,860,000	$6,454,080	No
		14[2]	Yes	52	13	$2,860,000	$7,529,760	No

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
5 Modified	Alt5-NB-49	6	Yes	2	6	$110,000	$1,690,200	No
		8	Yes	4	7	$220,000	$2,253,600	No
		10	Yes	4	9	$220,000	$2,817,000	No
		12[2]	Yes	4	11	$220,000	$3,380,400	No
		14	Yes	4	12	$220,000	$3,943,800	No
	Alt5-NB-50	**8[2]**	**Yes**	**1**	**7**	**$55,000**	**$48,520[5]**	**Yes**
		10	Yes	1	9	$55,000	$60,400[5]	No
		12	Yes	1	10	$55,000	$72,280[5]	No
		14	Yes	1	11	$55,000	$84,160[5]	No
		16	Yes	1	11	$55,000	$96,040[5]	No
	Alt5-NB-51	10[2]	Yes	1	5	$55,000	$75,400[5]	No
		12	Yes	1	6	$55,000	$90,280[5]	No
		14	Yes	1	7	$55,000	$105,160[5]	No
		16	Yes	1	7	$55,000	$120,040[5]	No
	Alt5-NB-52/53/54	12[2]	Yes	2	5	$110,000	$3,956,400	No[4]
		14	Yes	2	5	$110,000	$4,615,800	No[4]
9 Modified	Alt9-NB-1	6	Yes	29	8	$1,595,000	$1,698,840	No
		8	Yes	30	9	$1,650,000	$2,265,120	No
		10	Yes	30	11	$1,650,000	$2,831,400	No
		12[2]	Yes	31	14	$1,705,000	$3,397,680	No
		14	Yes	31	15	$1,705,000	$3,963,960	No
	Alt9-NB-2	10[2]	Yes	4	5	$220,000	$446,400	No
		12	Yes	4	6	$220,000	$535,680	No
		14	Yes	4	7	$220,000	$624,960	No
		16	Yes	4	7	$220,000	$714,240	No
	Alt9-NB-3	6[2]	Yes	1	6	$55,000	$134,080[5]	No
		8	Yes	1	9	$55,000	$161,440[5]	No
		10	Yes	1	10	$55,000	$188,800[5]	No
		12	Yes	1	12	$55,000	$216,160[5]	No
		14	Yes	1	13	$55,000	$243,520[5]	No
		16	Yes	1	14	$55,000	$270,880[5]	No

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
9 Modified	Alt9-NB-5	8	Yes	2	5	$110,000	$123,495[5]	No
		10[2]	Yes	2	6	$110,000	$153,975[5]	No
		12	Yes	2	7	$110,000	$184,455[5]	No
		14	Yes	2	8	$110,000	$214,935[5]	No
		16	Yes	2	8	$110,000	$245,415[5]	No
	Alt9-NB-29	8[2]	Yes	11	5	$605,000	$1,543,200	No
		10	Yes	15	5	$825,000	$1,929,000	No
		12	Yes	23	5	$1,265,000	$2,314,800	No
		14	Yes	23	6	$1,265,000	$2,700,600	No
		16	Yes	35	6	$1,925,000	$3,086,400	No
		18	Yes	40	7	$2,200,000	$3,472,200	No
	Alt9-NB-30	6	Yes	4	7	$220,000	$990,000	No
		8	Yes	4	9	$220,000	$1,320,000	No
		10	Yes	4	9	$220,000	$1,650,000	No
		12[2]	Yes	8	10	$440,000	$1,980,000	No
		14	Yes	8	10	$440,000	$2,310,000	No
		16	Yes	8	10	$440,000	$2,640,000	No
	Alt9-NB-31/32/33	6	Yes	24	7	$1,320,000	$2,755,080	No
		8	Yes	60	8	$3,300,000	$3,673,440	No
		10	**Yes**	**110**	**9**	**$6,050,000**	**$4,591,800**	**Yes**
		12	**Yes**	**115**	**10**	**$6,325,000**	**$5,510,160**	**Yes**
		14	Yes	115	11	$6,325,000	$6,428,520	No
	Alt9-NB-34/35/39	8	Yes	4	5	$220,000	$3,824,160	No
		10	Yes	14	6	$770,000	$4,780,200	No
		12	Yes	27	7	$1,485,000	$5,736,240	No
		14[2]	Yes	27	8	$1,485,000	$6,692,280	No
	Alt9-NB-36	8	Yes	1	5	$55,000	$482,400	No
		10	Yes	1	6	$55,000	$603,000	No
		12[2]	Yes	1	7	$55,000	$723,600	No
		14	Yes	1	8	$55,000	$844,200	No
	Alt9-NB-37	10	Yes	2	6	$110,000	$1,821,600	No
		12[2]	Yes	7	8	$385,000	$2,185,920	No
		14	Yes	10	9	$550,000	$2,550,240	No
		16	Yes	13	11	$715,000	$2,914,560	No

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
9 Modified	Alt9-NB-35/38/39	8	Yes	1	5	$55,000	$2,387,520	No
		10	Yes	9	6	$495,000	$2,984,400	No
		12[2]	Yes	11	7	$605,000	$3,581,280	No
		14	Yes	13	8	$715,000	$4,178,160	No
	Alt9-NB-40	10[2]	Yes	3	5	$165,000	$2,075,400	No
		12	Yes	3	6	$165,000	$2,490,480	No
		14	Yes	3	6	$165,000	$2,905,560	No
		16	Yes	7	7	$385,000	$3,320,640	No
	Alt9-NB-41/42	10	Yes	12	5	$660,000	$3,271,800	No
		12	Yes	29	7	$1,595,000	$3,926,160	No
		14[2]	Yes	35	7	$1,925,000	$4,580,520	No
	Alt9-NB-43	6	Yes	10	6	$550,000	$1,704,960	No
		8	**Yes**	**52**	**7**	**$2,860,000**	**$2,273,280**	**Yes**
		10	**Yes**	**84**	**9**	**$4,620,000**	**$2,841,600**	**Yes**
		12[2]	**Yes**	**88**	**11**	**$4,840,000**	**$3,409,920**	**Yes**
		14	**Yes**	**88**	**12**	**$4,840,000**	**$3,978,240**	**Yes**
	Alt9-NB-44	**6**	**Yes**	**39**	**7**	**$2,145,000**	**$1,876,680**	**Yes**
		8	Yes	40	8	$2,200,000	$2,502,240	No
		10	Yes	48	9	$2,640,000	$3,127,800	No
		12	Yes	48	9	$2,640,000	$3,753,360	No
		14	Yes	56	11	$3,080,000	$4,378,920	No
	Alt9-NB-45	6	Yes	10	5	$550,000	$2,053,440	No
		8	Yes	27	6	$1,485,000	$2,737,920	No
		10	Yes	31	8	$1,705,000	$3,422,400	No
		12	Yes	40	10	$2,200,000	$4,106,880	No
		14[2]	Yes	42	11	$2,310,000	$4,791,360	No
	Alt9-NB-46	6	Yes	2	6	$110,000	$2,194,560	No
		8	Yes	2	7	$110,000	$2,926,080	No
		10	Yes	6	8	$330,000	$3,657,600	No
		12	Yes	6	10	$330,000	$4,389,120	No
		14	Yes	6	10	$330,000	$5,120,640	No

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
9 Modified	Alt9-NB-47	6	Yes	22	6	$1,210,000	$2,051,640	No
		8	Yes	32	7	$1,760,000	$2,735,520	No
		10	Yes	40	8	$2,200,000	$3,419,400	No
		12	Yes	50	11	$2,750,000	$4,103,280	No
		14	Yes	50	12	$2,750,000	$4,787,160	No
	Alt9-NB-48	6	Yes	28	7	$1,540,000	$3,227,040	No
		8	Yes	44	8	$2,420,000	$4,302,720	No
		10	Yes	44	9	$2,420,000	$5,378,400	No
		12	Yes	52	12	$2,860,000	$6,454,080	No
		14[2]	Yes	52	13	$2,860,000	$7,529,760	No
	Alt9-NB-49	6	Yes	3	6	$165,000	$1,690,200	No
		8	Yes	3	7	$165,000	$2,253,600	No
		10	Yes	4	9	$220,000	$2,817,000	No
		12[2]	Yes	4	10	$220,000	$3,380,400	No
		14	Yes	4	11	$220,000	$3,943,800	No
	Alt9-NB-50	**6**	**Yes**	**1**	**5**	**$55,000**	**$36,640[5]**	**Yes**
		8[2]	**Yes**	**1**	**8**	**$55,000**	**$48,520[5]**	**Yes**
		10	Yes	1	10	$55,000	$60,400[5]	No
		12	Yes	1	11	$55,000	$72,280[5]	No
		14	Yes	1	12	$55,000	$84,160[5]	No
		16	Yes	1	12	$55,000	$96,040[5]	No
	Alt9-NB-51	10[2]	Yes	1	5	$55,000	$75,400[5]	No
		12	Yes	1	6	$55,000	$90,280[5]	No
		14	Yes	1	7	$55,000	$105,160[5]	No
		16	Yes	1	7	$55,000	$120,040[5]	No
	Alt9-NB-52/53/54	10	Yes	1	5	$55,000	$3,297,000	No[4]
		12[2]	Yes	1	5	$55,000	$3,956,400	No[4]
		14	Yes	2	6	$110,000	$4,615,800	No[4]
SJRB DV	Alt4-SJRB-NB-43	6	Yes	13	6	$715,000	$1,704,960	No
		8	**Yes**	**52**	**7**	**$2,860,000**	**$2,273,280**	**Yes**
		10	**Yes**	**87**	**9**	**$4,785,000**	**$2,841,600**	**Yes**
		12[2]	**Yes**	**96**	**11**	**$5,280,000**	**$3,409,920**	**Yes**
		14	**Yes**	**96**	**12**	**$5,280,000**	**$3,978,240**	**Yes**

Table 3.15.Z Noise Barrier Feasibility and Reasonableness for Alternatives 4 Modified, 5 Modified, and 9 Modified

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[3]	Reasonable?
SJRB DV	Alt5-SJRB-NB-43	6	Yes	5	6	$275,000	$1,704,960	No
		8	**Yes**	**52**	**7**	**$2,860,000**	**$2,273,280**	**Yes**
		10	**Yes**	**84**	**9**	**$4,620,000**	**$2,841,600**	**Yes**
		12[2]	**Yes**	**96**	**11**	**$5,280,000**	**$3,409,920**	**Yes**
		14	**Yes**	**96**	**12**	**$5,280,000**	**$3,978,240**	**Yes**
	Alt9-SJRB-NB-43	6	Yes	5	6	$275,000	$1,704,960	No
		8	**Yes**	**49**	**7**	**$2,695,000**	**$2,273,280**	**Yes**
		10	**Yes**	**87**	**9**	**$4,785,000**	**$2,841,600**	**Yes**
		12[2]	**Yes**	**96**	**11**	**$5,280,000**	**$3,409,920**	**Yes**
		14	**Yes**	**96**	**12**	**$5,280,000**	**$3,978,240**	**Yes**
SJN DV	SJN-NB-49	6	Yes	3	6	$165,000	$1,332,000	No
		8	Yes	3	7	$165,000	$1,776,000	No
		10	Yes	3	8	$165,000	$2,220,000	No
		12[2]	Yes	3	10	$165,000	$2,664,000	No
		14	Yes	3	11	$165,000	$3,108,000	No
	SJN-NB-53/54	10	Yes	1	5	$55,000	$2,592,000	No[4]
		12	Yes	1	5	$55,000	$3,110,400	No[4]
		14[2]	Yes	2	6	$110,000	$3,628,800	No[4]

Source: *Noise Abatement Decision Report* (April 2012).
Note: **Bold face type** indicates barriers determined to be both feasible and reasonable.
[1] Number of residences attenuated by 5 dB or more by the modeled barrier.
[2] Denotes the minimum noise barrier height required to break the line-of-sight between the receptor and truck exhaust stack.
[3] The estimated noise barrier construction cost was provided by Jacobs Engineering.
[4] The noise barrier was determined to be not reasonable because the barrier would not reduce levels by 7 dB or more for at least one benefited receptor.
[5] Right-of-way cost was included in the estimated noise barrier construction cost.
Caltrans = California Department of Transportation
dB = decibels
dBA = A-weighted decibels
ft = feet
NB = Noise Barrier
SJN DV = San Jacinto North Design Variation
SJRB DV = San Jacinto River Bridge Design Variation

determined to be reasonable. The remaining noise barriers listed in Table 3.15.Z were determined to be not reasonable because they did not reduce noise levels by 7 dB or more at one or more benefited receptors or the estimated construction cost of the barrier exceeded the total reasonable allowance. Detailed information on noise barriers is provided in Table 3.15.Z.

Nosie Barrier Optimization

The barriers where the construction costs marginally exceeded the reasonable allowance in the initial analysis were reevaluated by eliminating overlapping barriers, reducing the overall lengths, and/or reducing the height of various segments. The results of the barrier optimization are listed in Table 3.15.AA. As shown in Table 3.15.AA, NBs Alt4-NB-6 under Alternative 4 Modified; Alt5-NB-5 and Alt5-NB-21 under Alternative 5 Modified; and Alt9-NB-1 and Alt9-NB-5 under Alternative 9 Modified were determined to be reasonable (i.e., cost-effective). The remaining noise barriers listed in Table 3.15.AA were determined to be not reasonable because they did not reduce noise levels by 7 dB or more at one or more benefited receptors or the estimated construction cost of the barrier exceeded the total reasonable allowance. The reasonable barriers from the barrier optimization efforts in this section and the list of reasonable barriers mentioned in Section 3.15.Z make up the list of all reasonable barriers for the proposed project. The locations of the feasible and reasonable noise barriers for Alternatives 4 Modified, 5 Modified, and 9 Modified are shown on Figures 3.15-2, 3.15-3, and 3.15-4, respectively. Also, the locations of the feasible and reasonable SJRB DV NBs Alt4-SJRB-NB-43, Alt5-SJRB-NB-43, and Alt9-SJRB-NB-43 for Alternatives 4 Modified, 5 Modified, and 9 Modified are shown on Figure 3.15-5.

Nonacoustical Factors Related to Feasibility

Factors not relating to acoustics that must be considered during the construction of noise barriers include safety, maintenance, security, and utility relocations. Additional factors to consider include opinions of affected residents and input from the public and public agencies. Social, economic, legal, and technological factors also must be taken into consideration. Nonacoustical factors relating to the feasibility of the acoustically feasible noise barriers were evaluated. The non-acoustical factors for the feasible and reasonable barriers shown in Tables 3.15.Z and 3.15.AB are addressed below:

Table 3.15.AA Summary of Optimized Abatement Information

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Approximate Length (ft)	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Reasonable Allowance per Residence	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[2]	Updated Reasonable (and 7 dB)?
4 Modified	Alt4-NB-1 (Reduced length)	6	Yes	3,160	20	7	$55,000	$1,100,000	$1,137,600	No
		8	Yes	3,160	20	8	$55,000	$1,100,000	$1,516,800	No
		10	Yes	3,160	20	10	$55,000	$1,100,000	$1,896,000	No
	Alt4-NB- 6 (Removed NB-7/12)	6	Yes	9,824	68	6	$55,000	$3,740,000	$3,536,640	No
		8	Yes	9,824	90	7	$55,000	$4,950,000	$4,715,520	Yes
		10	Yes	9,824	113	8	$55,000	$6,215,000	$5,894,400	Yes
		12	Yes	9,824	166	9	$55,000	$9,130,000	$7,073,280	Yes
		14	Yes	9,824	185	10	$55,000	$10,175,000	$8,252,160	Yes
	Alt4-NB-47 (Reduced length)	6	Yes	4,897	22	6	$55,000	$1,210,000	$1,762,920	No
		8	Yes	4,897	32	7	$55,000	$1,760,000	$2,350,560	No
		10	Yes	4,897	40	8	$55,000	$2,200,000	$2,938,200	No
		12	Yes	4,897	50	11	$55,000	$2,750,000	$3,525,840	No
		14	Yes	4,897	50	12	$55,000	$2,750,000	$4,113,480	No
	Alt4-NB-51	10	Yes	124	1	5	$55,000	$55,000	$75,400[3]	No
		12	Yes	124	1	6	$55,000	$55,000	$90,280[3]	No
		14	Yes	124	1	7	$55,000	$55,000	$105,160[3]	No
		16	Yes	124	1	7	$55,000	$55,000	$120,040[3]	No
5 Modified	Alt5-NB-1 (Reduced length)	6	Yes	2,911	12	8	$55,000	$660,000	$1,047,960	No
		8	Yes	2,911	12	9	$55,000	$660,000	$1,397,280	No
		10	Yes	2,911	15	10	$55,000	$825,000	$1,746,600	No
		12	Yes	2,911	15	12	$55,000	$825,000	$2,095,920	No
		14	Yes	2,911	16	13	$55,000	$880,000	$2,445,240	No
	Alt5-NB-5 (Reduced length)	8	Yes	175	2	6	$55,000	$110,000	$84,000[3]	No
		10	Yes	175	2	7	$55,000	$110,000	$105,000[3]	Yes
		12	Yes	175	2	8	$55,000	$110,000	$126,000[3]	No
		14	Yes	175	2	9	$55,000	$110,000	$147,000[3]	No
		16	Yes	175	2	9	$55,000	$110,000	$168,000[3]	No
	Alt5-NB-21 (Removed NB-22/27	6	Yes	7,354	16	7	$55,000	$880,000	$2,647,440	No
		8	Yes	7,354	62	10	$55,000	$3,410,000	$3,529,920	No
		10	Yes	7,354	90	11	$55,000	$4,950,000	$4,412,400	Yes
		12	Yes	7,354	115	12	$55,000	$6,325,000	$5,294,880	Yes
		14	Yes	7,354	130	13	$55,000	$7,150,000	$6,177,360	Yes

Table 3.15.AA Summary of Optimized Abatement Information

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Approximate Length (ft)	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Reasonable Allowance per Residence	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[2]	Updated Reasonable (and 7 dB)?
5 Modified	Alt5-NB-17/18/24 (Reduced length of NB-17)	12	Yes	3,937/866/1,383	41	6	$55,000	$2,255,000	$4,453,920	No
		14	Yes	3,937/866/1,383	80	7	$55,000	$4,400,000	$5,196,240	No
	Alt5-NB-45 (Reduced length)	6	No	2,492	1	4	$55,000	$55,000	$897,120	No
		8	Yes	2,492	4	6	$55,000	$220,000	$1,196,160	No
		10	Yes	2,492	7	8	$55,000	$385,000	$1,495,200	No
		12	Yes	2,492	16	10	$55,000	$880,000	$1,794,240	No
		14	Yes	2,492	18	11	$55,000	$990,000	$2,093,280	No
	Alt5-NB-47 (Reduced length)	6	Yes	4,897	10	6	$55,000	$550,000	$1,762,920	No
		8	Yes	4,897	32	7	$55,000	$1,760,000	$2,350,560	No
		10	Yes	4,897	32	8	$55,000	$1,760,000	$2,938,200	No
		12	Yes	4,897	50	11	$55,000	$2,750,000	$3,525,840	No
		14	Yes	4,897	50	12	$55,000	$2,750,000	$4,113,480	No
	Alt5-NB-51	10	Yes	124	1	5	$55,000	$55,000	$75,400[3]	No
		12	Yes	124	1	6	$55,000	$55,000	$90,280[3]	No
		14	Yes	124	1	7	$55,000	$55,000	$105,160[3]	No
		16	Yes	124	1	7	$55,000	$55,000	$120,040[3]	No
9 Modified	Alt9-NB-1 (Reduced length)	6	Yes	3,219	24	8	$55,000	$1,320,000	$1,158,840	Yes
		8	Yes	3,219	26	9	$55,000	$1,430,000	$1,545,120	No
		10	Yes	3,219	26	11	$55,000	$1,430,000	$1,931,400	No
		12	Yes	3,219	30	14	$55,000	$1,650,000	$2,317,680	No
		14	Yes	3,219	30	15	$55,000	$1,650,000	$2,703,960	No
	Alt9-NB-5 (Reduced length)	8	Yes	175	2	5	$55,000	$110,000	$84,000	No
		10	Yes	175	2	7	$55,000	$110,000	$105,000	Yes
		12	Yes	175	2	7	$55,000	$110,000	$126,000	No
		14	Yes	175	2	8	$55,000	$110,000	$147,000	No
		16	Yes	175	2	8	$55,000	$110,000	$168,000	No
	Alt9-NB-29	14	Yes	2,033	23	6	$55,000	$1,265,000	$1,707,720	No
		16	Yes	2,033	31	7	$55,000	$1,705,000	$1,951,680	No

Table 3.15.AA Summary of Optimized Abatement Information

Alternative	Noise Barrier No.	Height (ft)	Acoustically Feasible?	Approximate Length (ft)	Number of Benefited Residences[1]	Highest Barrier Attenuation (dB)	Reasonable Allowance per Residence	Total Reasonable Allowance	Estimated Noise Barrier Construction Cost[2]	Updated Reasonable (and 7 dB)?
9 Modified	Alt9-NB-47 (see Alt4-NB-47)	6	Yes	5,699	22	6	$55,000	$1,210,000	$2,051,640	No
		8	Yes	5,699	32	7	$55,000	$1,760,000	$2,735,520	No
		10	Yes	5,699	40	8	$55,000	$2,200,000	$3,419,400	No
		12	Yes	5,699	50	11	$55,000	$2,750,000	$4,103,280	No
		14	Yes	5,699	50	12	$55,000	$2,750,000	$4,787,160	No
	Alt9-NB-51	10	Yes	124	1	5	$55,000	$55,000	$75,400[3]	No
		12	Yes	124	1	6	$55,000	$55,000	$90,280[3]	No
		14	Yes	124	1	7	$55,000	$55,000	$105,160[3]	No
		16	Yes	124	1	7	$55,000	$55,000	$120,040[3]	No

Source: *Noise Abatement Decision Report* (April 2012).

[1] Number of residences attenuated by 5 dB or more by the modeled barrier.

[2] The estimated noise barrier construction cost was provided by Jacobs Engineering (2011).

[3] Right-of-way cost was included in the estimated noise barrier construction cost.

dBA = A-weighted decibels

ft = feet

Table 3.15.AB Summary of Preliminary Recommended Noise Barriers

Alternative	Noise Barrier No.	Height (ft)	Break Line-of-Sight?	Length of Barrier (ft)	Number of Benefited Residences[1]	Barrier Location	Estimated Noise Barrier Construction Cost[2]
4 Modified	Alt4-NB-6 (optimized)	14	Yes	9,824	185	EOS	$8,252,160
	Alt4-NB-43	12	Yes	4,736	96	EOS	$3,409,920
	Alt4-NB-44	6	No	5,213	39	EOS	$1,876,680
	Alt4-NB-50	8	Yes	99	1	Property Line	$48,520
5 Modified	Alt5-NB-5 (optimized)	10	Yes	175	2	Property Line	$105,000
	Alt5-NB-19	8	No	589	6	EOS	$282,720
	Alt5-NB-21 (optimized)	14	Yes	7,354	130	EOS	$6,177,360
	Alt5-NB-43	12	Yes	4,736	96	EOS	$3,409,920
	Alt5-NB-44	6	No	5,213	39	EOS	$1,876,680
	Alt5-NB-50	8	Yes	99	1	Property Line	$48,520
9 Modified with the SJRB DV (Preferred Alternative)	Alt9-NB-1 (optimized)	6	No	3,219	24	EOS	$1,158,840
	Alt9-NB-5 (optimized)	10	Yes	175	2	Property Line	$105,000
	Alt9-NB-31/32/33	12	No	5,136/987/1,530	115	EOS	$5,510,160
	Alt9-NB-43	12	Yes	4,736	88	EOS	$3,409,920
	Alt9-NB-44	6	No	5,213	39	EOS	$1,876,680
	Alt9-NB-50	8	Yes	99	1	Property Line	$48,520
SJRB DV	Alt4-SJRB-NB-43	12	Yes	4,736	96	EOS	$3,409,920
	Alt5-SJRB-NB-43	12	Yes	4,736	96	EOS	$3,409,920
	Alt9-SJRB-NB-43	12	Yes	4,736	96	EOS	$3,409,920

Source: *Noise Abatement Decision Report* (April 2012).
[1] Number of residences attenuated by 5 dB or more by the modeled barrier.
[2] The estimated noise barrier construction cost was provided by Jacobs Engineering.
Alt = Alternative
dB = decibels
dBA = A-weighted decibels
EOS = edge of shoulder
ft = feet
NB = Noise Barrier
SJRB DV = San Jacinto River Bridge Design Variation

- **Safety:** The noise barriers would not affect minimum stopping and horizontal sight distance requirements, except for Alternative 4 NB No. 6, per the Caltrans Highway Design Manual, Sixth Edition. Alternative 4 NB No. 6 would be an obstruction to the driver's sight distance. Therefore, this barrier cannot be constructed. All of the remaining noise barriers would be constructed in accordance with Caltrans standards and policies. The Alternative 5 NB No. 21, at some locations, is near retaining walls. Placement of noise barriers and retaining walls should be considered to be at the same location, with the noise barrier over the retaining wall. This would eliminate having vacant land areas in between a retaining wall and a noise barrier, as these areas can be hard to maintain.
- **Maintenance:** The majority of the noise barriers would be located within the MCP right-of-way or along private property lines/public right-of-way lines, except NB No. 5 for Alternatives 5 Modified and 9 Modified. This noise barrier is located on the Val Verde High School property. If this barrier were to be built, the Val Verde School District would need to enter into a contract with the MCP owner/operator to accept aesthetic maintenance responsibility for their respective portion of the barrier upon

completion. The MCP owner/operator would be responsible for ensuring structural integrity for the useful life of the noise barriers.

All noise barriers would receive vine planting, anti-graffiti coating, or architectural aesthetic treatment, where feasible or reasonable, to discourage graffiti.

The south end of NB No. 1 for Alternative 9 Modified is near a water quality best management practices (BMP) feature and maintenance vehicle pullout. Shortening the length of the noise barrier to not be near the BMP feature and maintenance vehicle pullout should be considered if the noise barrier interferes with the BMP feature and maintenance functions.

- **Structure Issues:** Locations of Alt 5-NB-19 should be considered so that the footing of the barrier does not impact adjacent buildings.
- **Security:** The noise barriers would not create any potential security risks.
- **Utility Relocations:** Existing and planned utility locations need to be reviewed during the Plans, Specifications and Estimates phase for coordination with all noise barrier foundations.
- **Geometric Standards:** All noise barriers would not affect roadway geometric standards per the Caltrans *Highway Design Manual*, Sixth Edition.
- **Property Access:** All noise barriers do not interfere with existing private property access.

Preliminary Recommendation and Decision

When there is more than one feasible and reasonable noise barrier height, the recommended height is determined based on a variety of factors that include: heights that would break the line-of-sight to truck exhaust stacks in accordance with Section 1102.3(3) of the Caltrans' Highway Design Manual, absolute noise levels, number of benefited receptors, and the degree of noise level reduction. The preliminary recommendation and decision for each noise barrier height was selected using the factors mentioned above.

Based on the studies completed to date, RCTC intends to incorporate noise abatement measures in the form of noise barriers for Alternative 9 Modified (Preferred Alternative) shown in Table 3.15.AB because they were determined to be both feasible and reasonable, and, as discussed in Chapter 4.0, would provide mitigation required under CEQA. The noise abatement decision presented here is based on preliminary project alignments and profiles at a 35 percent level of project design; these may be subject to change during final project design. As such, the physical characteristics of noise abatement described herein also may be subject to change or

refinement by RCTC and/or the County of Riverside, the City of Perris, and the City of San Jacinto. For example, Alt-9-NB-44 was identified as a feasible and reasonable noise barrier in the approved *Noise Abatement Decision Report* to protect future residences in the approved Villages of Lakeview (TVOL) development. The Final EIR for the TVOL project was subsequently set aside as a result of a CEQA lawsuit after the NADR was approved; therefore, the responsibility for constructing this barrier (if it is still needed depending upon changes to the site plan for that development project) may become the responsibility of the developer rather than RCTC.

Noise Barrier Survey Public Outreach Process

For proposed noise barriers on private property, Caltrans' *Traffic Noise Analysis Protocol* (May 2011) requires that 100 percent of the property owners adjacent to that noise barrier approve the installation of that noise barrier at that location. For noise barriers on/along State right of way, Caltrans' *Traffic Noise Analysis Protocol* states that if 50 percent or more of the adjacent property owners deny the installation of that noise barrier at that location, then it is not considered reasonable. In accordance with Caltrans' procedures, RCTC sent letters in January 2014 by certified mail to each property owner adjacent to a proposed noise barrier for Alternative 9 Modified (Preferred Alternative) to survey the owners on whether they would approve or disapprove of the noise barriers at the locations at or adjacent to their properties. Each letter included a noise barrier survey letter and survey form, a map showing the location of the noise barrier being considered specific to the individual property, and a postage paid return envelope. For the noise barriers proposed on private property (NB-5, NB-50, NB-43, and NB-44), responses in support of the noise barriers were less than 100 percent. Similarly, for the noise barriers that would be located on future State right of way, less than 50 percent of the adjacent property owners support the proposed noise barriers. Therefore, it was not possible to reach a conclusion on whether the noise barriers were reasonable under the "Viewpoints of Benefited Receptors" requirements in Caltrans' *Traffic Noise Analysis Protocol*. However, as Lead Agency under CEQA, RCTC will carry the feasible and reasonable noise barriers forward into final design for the preferred alternative and will continue to work with adjacent property owners to assess their support for those noise barriers. RCTC will consult with Caltrans on the results of future noise barrier surveys.

Groundborne Vibration Impacts

Because the rubber tires and suspension systems of trucks and other on-road vehicles provide vibration isolation, it is unusual for on-road vehicles to cause groundborne

noise or vibration problems. When on-road vehicles cause effects such as rattling of windows, the source is almost always airborne noise. Groundborne vibrations are mostly associated with passenger vehicles and trucks traveling on poor roadway conditions, such as potholes, bumps, expansion joints, or other discontinuities in the road surface. Smoothing the bump or filling the pothole will usually solve the problem. As the proposed project will use new asphalt pavement with proper maintenance, there will be no potholes, bumps, expansion joints, or other discontinuities in the road surface that would generate groundborne vibration or direct or indirect noise impacts from vehicular traffic traveling on the MCP freeway.

No Build Alternative

Long-term noise impacts under the No Build Alternative would be from traffic noise. The 2040 noise levels without the Build Alternatives are not expected to change from the existing noise levels. A total of 15 of 337, 14 of 358, and 10 of 355 modeled receptors under Alternatives 4 Modified, 5 Modified, and 9 Modified, respectively, approach or exceed the 67 dBA L_{eq} NAC for Activity Categories B and C under the 2040 No Build traffic noise conditions. No noise abatement measures were considered for these receptors under the No Build traffic noise conditions.

3.15.3.2 Temporary Impacts

Construction Noise Impacts

Two types of short-term noise impacts would occur during project construction: (1) construction crew commutes and transport of construction equipment and materials to the project site including trucks hauling imported borrow material to the site; and (2) noise generated during roadway construction. Construction crew commutes and the transport of construction equipment and materials to the project site would incrementally raise noise levels on access roads leading to the site. The pieces of heavy equipment for grading and construction activities would be moved on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the project vicinity. A high single-event noise exposure potential at a maximum level of 87 dBA maximum instantaneous noise level (L_{max}) from trucks passing at 50 ft will exist. However, the projected construction traffic will be minimal when compared to existing traffic volumes on I-215, Ramona Expressway, and other affected streets, and its associated long-term noise level change will not be perceptible. Therefore, short-term, construction-related worker commutes and equipment transport noise impacts would not be adverse.

The second type of short-term noise impact is related to noise generated during roadway construction. Construction is performed in discrete steps, each of which has its own mix of equipment and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels as well, along the project alignment as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 3.15.AC lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receptor.

Table 3.15.AC Typical Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels (dBA at 50 ft)	Suggested Maximum Sound Levels for Analysis (dBA at 50 ft)
Blasting	93 to 94	94
Pile Drivers	81 to 96	93
Rock Drills	83 to 99	96
Jackhammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	74 to 84	80
Scrapers	83 to 91	87
Haul Trucks	83 to 94	88
Cranes	79 to 86	82
Portable Generators	71 to 87	80
Rollers	75 to 82	80
Dozers	77 to 90	85
Tractors	77 to 82	80
Front-End Loaders	77 to 90	86
Hydraulic Backhoe	81 to 90	86
Hydraulic Excavators	81 to 90	86
Graders	79 to 89	86
Air Compressors	76 to 89	86
Trucks	81 to 87	86

Source: Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek, & Newman 1987.
dBA = A-weighted decibel
ft = feet

Typical noise levels at 50 ft from an active construction area range up to 91 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery, such as backfillers, bulldozers, and front loaders. Earthmoving and compacting equipment include compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed project is expected to require the use of earthmovers, bulldozers, water trucks, and pickup trucks. Noise associated with the use of construction equipment is estimated between 79 and 89 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. As seen in Table 3.15.AC, the maximum noise level generated by each scraper is assumed to be approximately 87 dBA L_{max} at 50 ft from the earthmover in operation. Each bulldozer would generate approximately 85 dBA L_{max} at 50 ft. The maximum noise level generated by water trucks and pickup trucks is approximately 86 dBA L_{max} at 50 ft from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3 dB. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest receptor during this phase of construction would be 91 dBA L_{max} (at a distance of 50 ft from an active construction area).

In addition to the standard construction equipment, the project may require the use of pile drivers and blasting. As shown in Table 3.15.AC, pile driving and blasting generates noise levels of approximately 93 dBA L_{max} at 50 ft and 94 dBA L_{max} at 50 ft and 94, respectively. If pile driving is conducted concurrently with site preparation, the active construction site could potentially generate noise levels of 95 dBA L_{max} at a distance of 50 ft. Also, if blasting is conducted concurrently with site preparation, the active construction site could potentially generate noise levels of 96 dBA L_{max} at a distance of 50 ft.

The closest frequent outdoor use areas are located within 50 ft of the project construction areas. The closest receptor locations may be subject to short-term noise reaching higher than 91 dBA L_{max} that is generated by construction activities along the project alignment. In areas where pile driving and site preparation would occur concurrently, the closest outdoor use areas are located approximately 230 ft, 170 ft, and 57 ft under Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified, respectively. The closest receptor location may be subject to noise levels reaching 82 dBA L_{max}, 84 dBA L_{max}, and 94 dBA L_{max}, respectively. In areas where blasting and site preparation would occur concurrently, the closest outdoor use areas are located approximately 62 ft, 125 ft, and 175 ft under Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified, respectively. The closest receptor location may be subject to noise levels reaching 94 dBA L_{max}, 88 dBA L_{max}, 85 dBA L_{max} under Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified, respectively. Compliance with the construction hours specified in the Cities of Perris and San Jacinto Municipal Codes and County Codes will be required.

Adherence to the Cities of Perris and San Jacinto and the County of Riverside ordinances, and the Caltrans Standard Special Provisions will be required to minimize construction noise. To minimize construction noise impacts on frequent outdoor use areas adjacent to the project site, construction noise is regulated by Caltrans Standard Specifications in Section 14-8.02, "Noise Control," and also by Standard Special Provision S5-310. Noise control shall conform to the provisions in Section 14-8.02 and Standard Special Provision S5-310. Noise levels from the contractor's operations between the hours of 9:00 p.m. and 6:00 a.m. shall not exceed 86 dBA L_{max} at a distance of 50 ft. In addition, the contractor shall equip all internal combustion engines with the manufacturer-recommended muffler and shall not operate any internal combustion engine on the job site without the appropriate muffler.

Construction-related Groundborne Vibration Impacts

Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings situated on soil near the active construction area respond to these vibrations, which range from imperceptible to low rumbling sounds with perceptible vibrations and slight damage at the highest vibration levels. Typically, construction-related vibrations do not reach vibration levels that would result in damage to nearby structures. However, old and fragile structures would require special consideration to avoid damage.

The Caltrans Transportation- and Construction-Induced Vibration Guidance Manual (Caltrans, June 2004) shows that the vibration damage threshold for continuous/ frequent intermittent sources such as pile driving is 0.25 peak particle velocity (PPV) (inches per second [in/sec]) for historic and old buildings, 0.3 PPV (in/sec) for old residential structures, and 0.5 PPV (in/sec) for new residential structures. The damage threshold for blasting from the Federal Transit Administration (FTA)'s Transit Noise and Vibration Impact Assessment (FTA, May 2006) is 90 vibration velocity decibels (VdB) for buildings extremely susceptible to vibration damage, 94 VdB for non-engineered timber and masonry buildings, and 98 VdB for engineered concrete and masonry buildings. The same manual shows the vibration annoyance potential criteria to be barely perceptible at 0.01 PPV (in/sec), distinctly perceptible at 0.04 PPV (in/sec), and strongly perceptible at 0.10 PPV (in/sec) for continuous/frequent intermittent sources such as pile driving. It also shows that the vibration annoyance criteria to be barely perceptible at 0.04 PPV (in/sec), distinctly perceptible at 0.25 PPV (in/sec), and strongly perceptible at 0.9 PPV (in/sec) for transient sources such

as blasting. These thresholds were used to evaluate short-term, construction-related groundborne vibration.

The proposed project may require the use of pile drivers and blasting. The FTA, in its Transit Noise and Vibration Assessment, shows that a typical-impact pile driver would generate approximately 0.644 PPV (in/sec) when measured at 25 ft. The closest residence to potential pile driving on the project site is approximately 228 ft, 170 ft, and 57 ft for Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified, respectively. At these distances, the closest residences would experience vibration levels of 0.057 PPV, 0.078 PPV, and 0.260 PPV for Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified, respectively. Under all Build Alternatives, vibration levels would all be below the damage threshold for old residential buildings. None of the residences located near potential pile driving locations are considered historic buildings. Also, these vibration levels are considered to be only distinctly perceptible or strongly perceptible. Other construction equipment and activities would generate vibration levels much lower than those of pile driving and would, therefore, result in lower vibration levels. Although vibration levels would be either distinctly perceptible or strongly perceptible, no substantial groundborne vibration levels or direct or indirect impacts from pile driving would occur.

Also, the FTA shows that vibration levels for construction-related blasting are approximately 100 VdB at a distance of 50 ft. The closest residence to potential blasting is approximately 62 ft, 125 ft, and 175 ft for Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified, respectively. At this distance, the closest residences would experience vibration levels of 98 VdB, 92 VdB, and 98 VdB for Alternative 4 Modified, Alternative 5 Modified, and Alternative 9 Modified, respectively. These vibration levels range between barely perceptible to distinctly perceptible and could result in community annoyance. The closest residence to potential blasting locations under Alternative 4 Modified would experience vibration levels that exceed a damage threshold of 94 VdB. Therefore, a minimum distance of 100 ft is required from blasting activity to the closest residence. The closest residence under Alternative 5 Modified and Alternative 9 Modified would not reach the damage threshold of 94 VdB.

No Build Alternative

The No Build Alternative would not result in construction of the MCP project or improvements to I-215, Ramona Expressway, Sanderson Avenue, and adjacent local

streets; therefore, the No Build Alternative would not result in temporary construction-related noise impacts.

3.15.4 Avoidance, Minimization, and/or Abatement Measures

3.15.4.1 Measure for Operational Noise

The measure below would reduce operational noise as a result of the MCP project.

N-1 **Sound Barriers.** Based on the studies completed to date, the Riverside County Transportation Commission (RCTC) shall incorporate noise abatement in the form of feasible and reasonable barriers at six locations for Alternative 9 Modified with the SJRB DV (the preferred alternative) (see Table 3.15.AB). Calculations based on preliminary design data indicate that the barriers will reduce noise levels by 5 to 11 A-weighted decibels (dBA) (satisfying the 7 decibels [dB] or more for at least one of the benefited receptor locations based on the *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects* (May 2011) for a total of 269 residences.

During construction, RCTC's Resident Engineer will require the Construction Contractor to construct the noise abatement measures included in the final design and project specifications as early in the construction process as appropriate, based on other construction activities to maximize the reduction of construction noise on sensitive receptors on the non-freeway side of the wall.

3.15.4.2 Measures for Construction Noise and Vibration

The measures below would reduce adverse impacts related to construction noise and vibration as a result of the MCP project.

N-2 **Construction Noise.** During all site preparation, disturbance, grading, and construction, the RCTC Resident Engineer will require the Construction Contractor to control noise from construction activity consistent with the Caltrans Standard Specifications, Section 14-8.02, "Noise Control," and Standard Special Provisions S5-310. RCTC's Resident Engineer will require the Construction Contractor to ensure that noise levels from construction operations within the state right of way between the hours of 9:00 p.m. and 6:00 a.m. do not exceed 86 dBA at a distance of 50 ft from the noise source. The noise level requirement will apply to the equipment and activities on the job site

or related to the job, including, but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by the Construction Contractor.

During all site preparation, disturbance, grading, and construction, RCTC's Resident Engineer will require the Construction Contractor to equip all internal combustion engines with the manufacturer-recommended mufflers and to not operate any internal combustion engine on the job site without the appropriate mufflers. As directed by RCTC's Resident Engineer, the Construction Contractor will implement additional minimization measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

N-3 **Noise Ordinances.** During all site preparation, disturbance, grading, and construction, in accordance with the Municipal Codes of the City of Perris and the City of San Jacinto, and the Riverside County Noise Ordinance, the RCTC Resident Engineer will require the Construction Contractor to limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, excluding weekends and holidays. If construction is needed outside those hours or days, the RCTC Resident Engineer will require the Construction Contractor to coordinate with the affected local jurisdiction.

The measure below would reduce adverse impacts related to construction noise and vibration as a result of the blasting for the MCP project. Also, see Mitigation Measures GEO-4 and HW-13.

N-5 **Blasting.** Prior to blasting, the Construction Contractor shall conduct crack survey and video reconnaissance, documenting the existing condition of surrounding structures within 100 ft. A follow-up crack survey and video reconnaissance of neighboring structures shall be conducted to determine whether any new cracks or other damage have occurred. The Resident Engineer shall review the results of both pre- and post-construction surveys to determine whether any new damage resulted from blasting.

The Recirculated Draft EIR/Supplemental Draft EIS included Measure N-4 (**"N-4 Blasting.** A minimum distance of 100 ft from potential blasting is required for the closest residence under Alternative 4 Modified.") to address noise associated with blasting during construction that would apply only to construction of Alternative 4 Modified. Because Alternative 4 Modified is not the preferred alternative, this measure is not applicable to the MCP project and is not included in the measures in the Environmental Commitments Record for the preferred alternative provided in Appendix F in this Final EIR/EIS.

LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

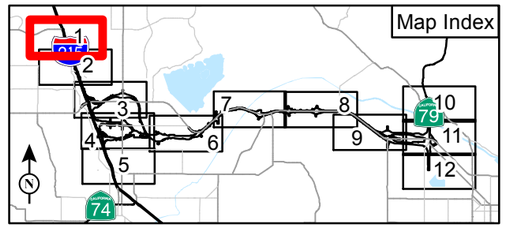

FIGURE 3.15.1

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Monitored and Modeled Receptor Locations - All Alternatives

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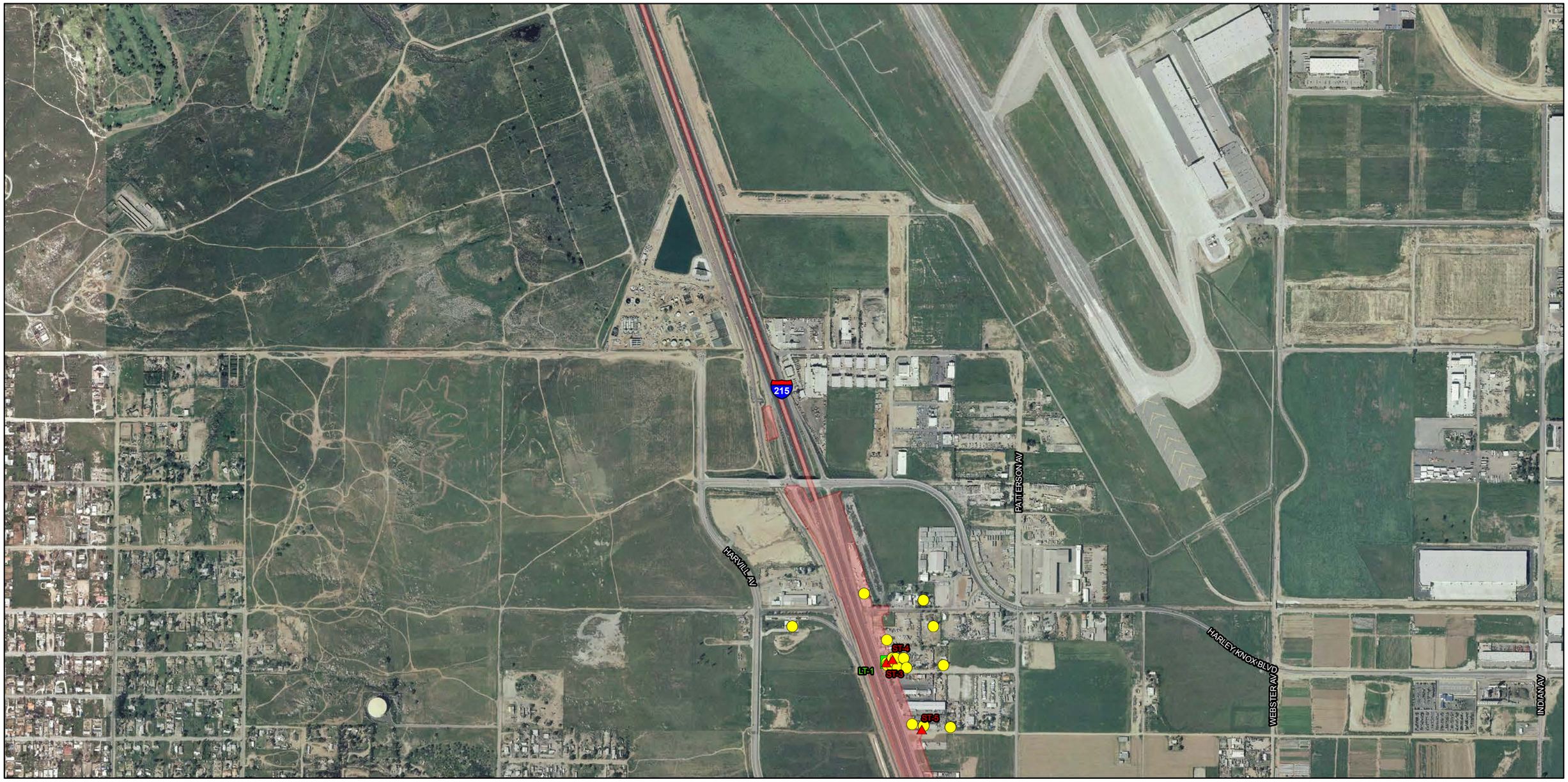

LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
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SOURCE: Jacobs Engineering (02/2011); LSA (2011)

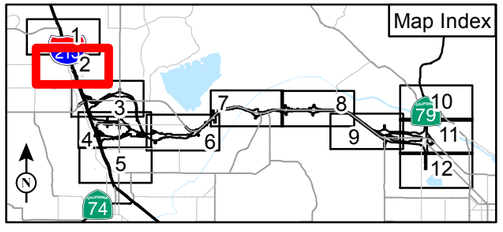

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FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

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LEGEND

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- Short-term Monitored Locations
- Long-term Monitored Locations
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- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

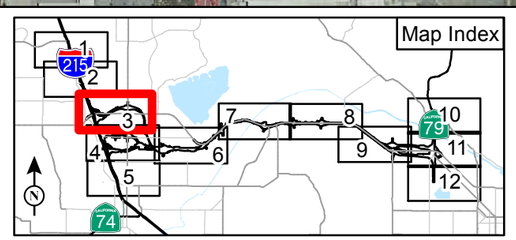

FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

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LEGEND

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- Short-term Monitored Locations
- Long-term Monitored Locations
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SOURCE: Jacobs Engineering (02/2011); LSA (2011)

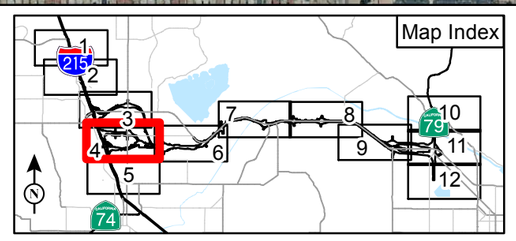

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FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

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ORANGE AV
ORANGE AV
ST-14
WEBSTER AV
S HARVILL AV
INDIAN AV
PERRIS BLVD
215
NUEVO RD
W NUEVO RD
NUEVO RD
Int/Ext-4
ST-15
ST-16
LT-3
ST-18
ST-17
A ST

LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
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- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

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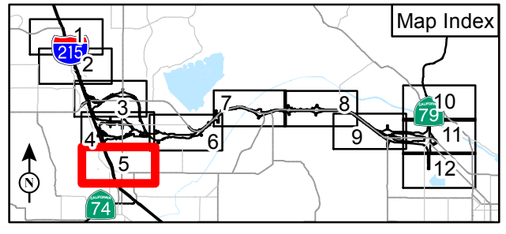

FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

MID COUNTY PARKWAY
CETAP
SAN JACINTO – PERRIS

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RIDER ST
ST-31
ST-32
ST-33
ST-34
ST-35
ST-36
LT-8
ST-37
ST-38
Int/Ext-5
ST-39
Int/Ext-6
ST-45
RAMONA EXWY
ANTELOPE RD
ST-43
ST-44
LT-7
ST-41
ST-42
ST-40
EVANS RD
FOOTHILL AV
ORANGE AV
DUNLAP DR

LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

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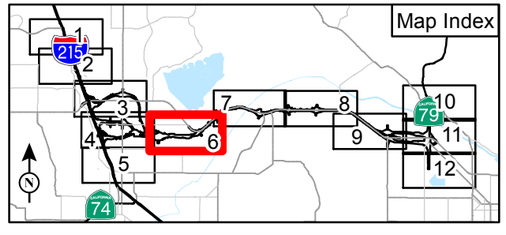

FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

MID COUNTY PARKWAY
CETAP
SAN JACINTO – PERRIS

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LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
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SOURCE: Jacobs Engineering (02/2011); LSA (2011)

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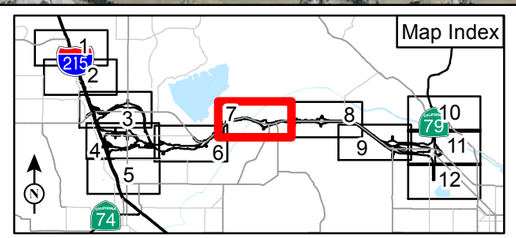

FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

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LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

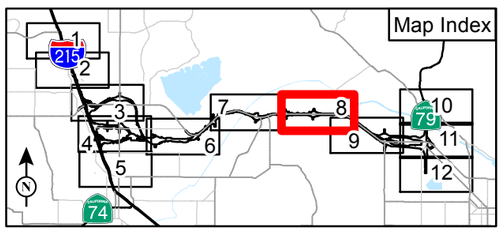

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FIGURE 3.15.1
Page 8 of 12

Monitored and Modeled Receptor Locations - All Alternatives

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LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

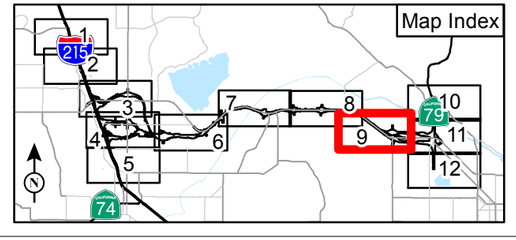

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FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

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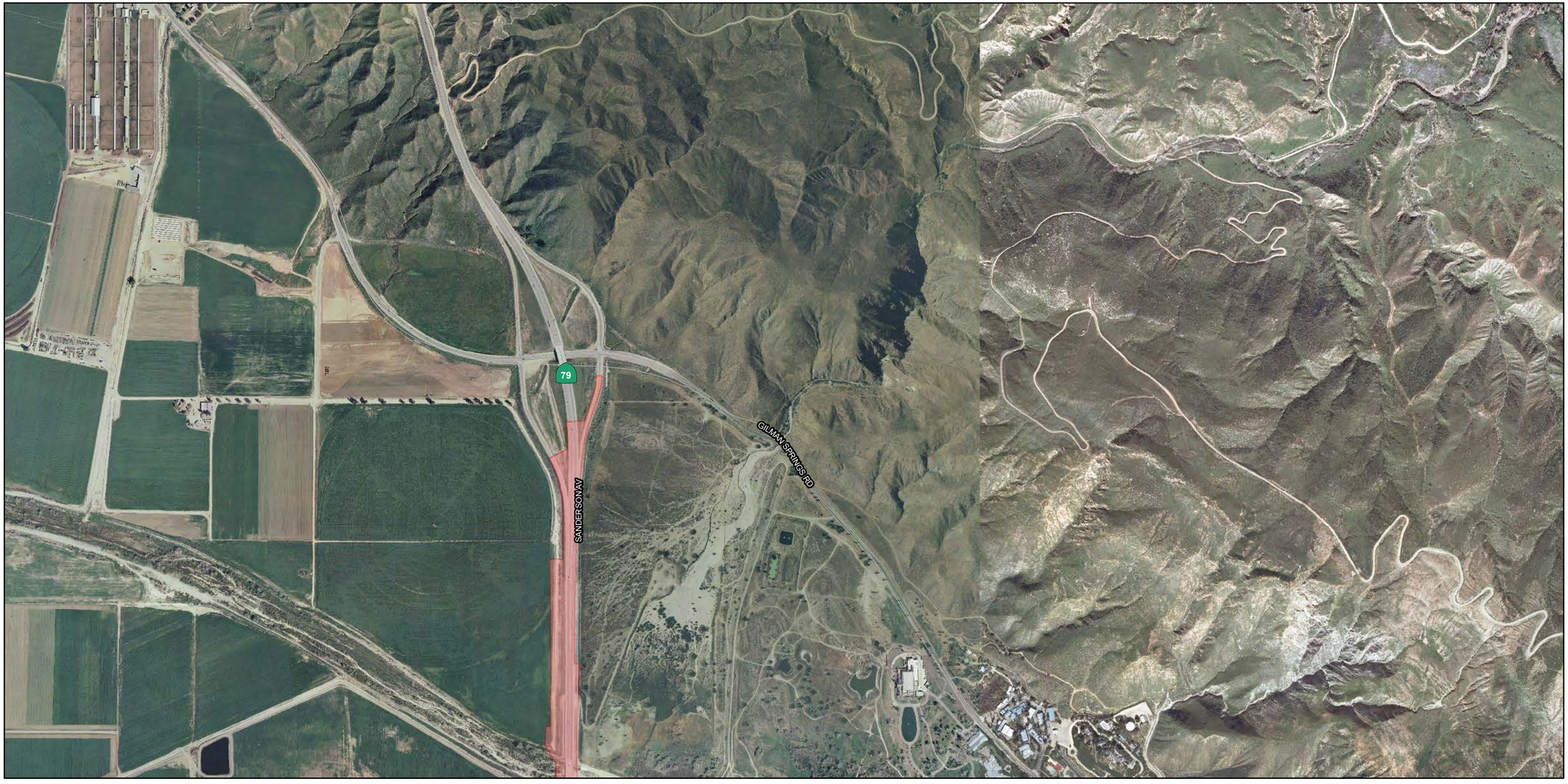

LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

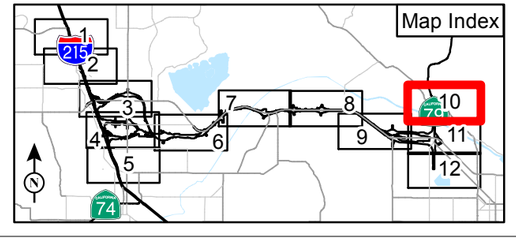

FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

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LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

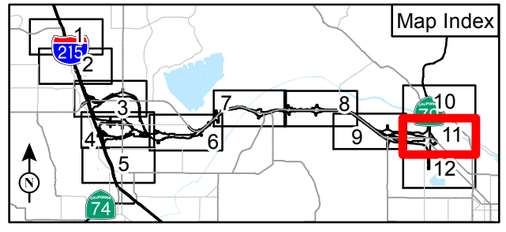

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FIGURE 3.15.1
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Monitored and Modeled Receptor Locations - All Alternatives

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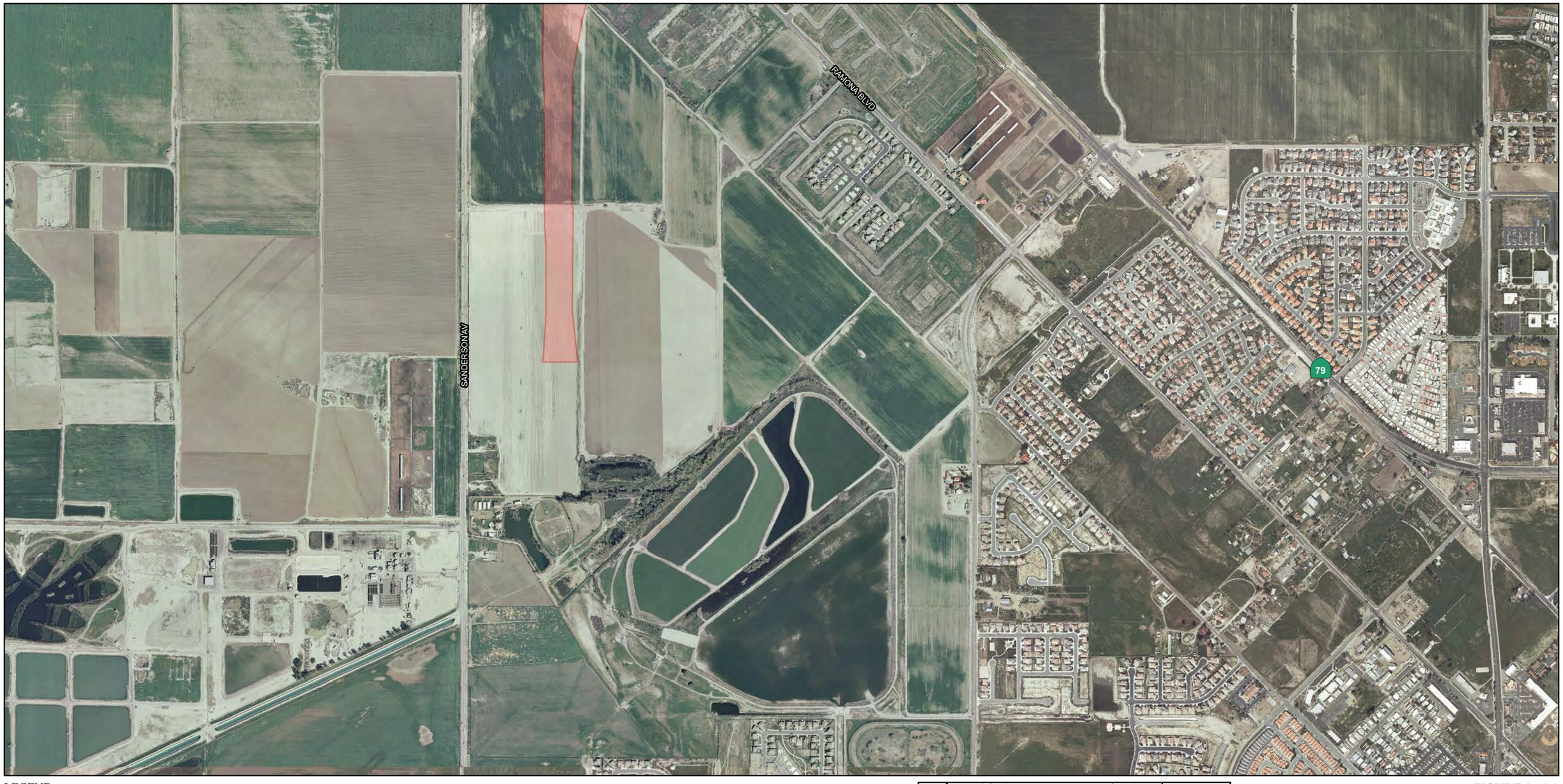

LEGEND

- Limits of Proposed Improvements (All Alternatives and Design Variations)
- Short-term Monitored Locations
- Long-term Monitored Locations
- Interior/Exterior Monitored Location
- Modeled Receptor Locations

SOURCE: Jacobs Engineering (02/2011); LSA (2011)

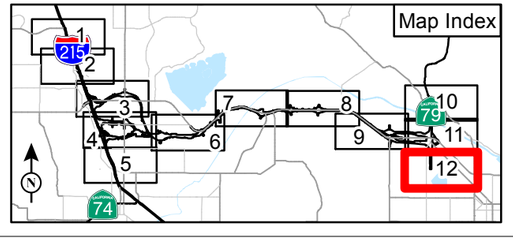

FIGURE 3.15.1
Page 12 of 12

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Monitored and Modeled Receptor Locations - All Alternatives

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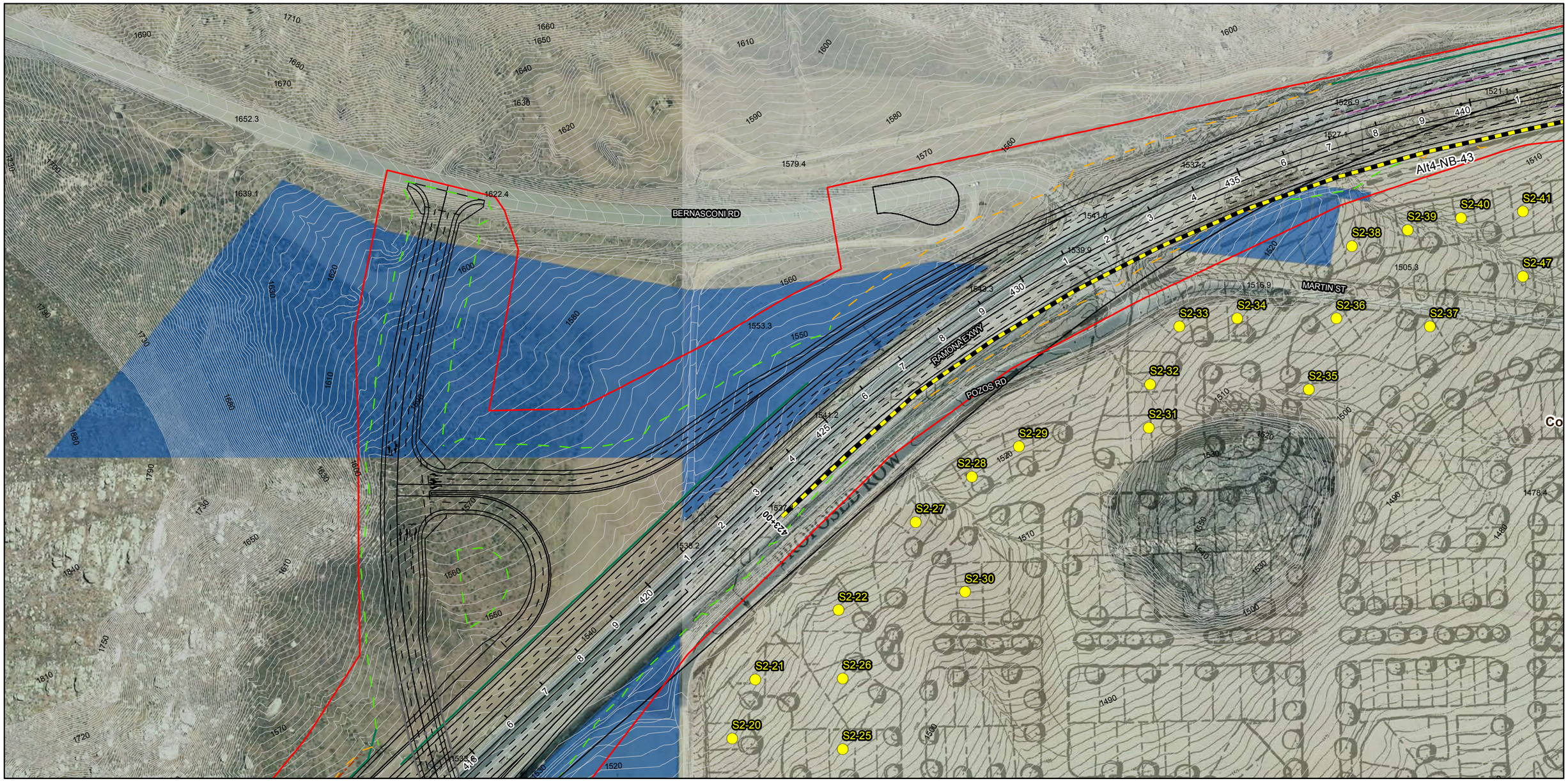
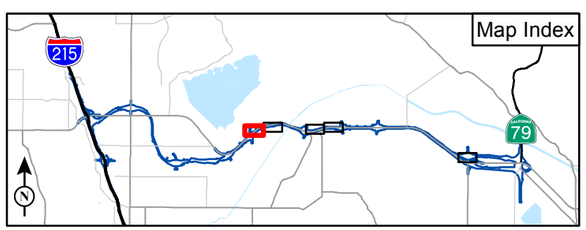


LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 4 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.



SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

FIGURE 3.15.2
Page 1 of 5

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 4 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

MID COUNTY PARKWAY
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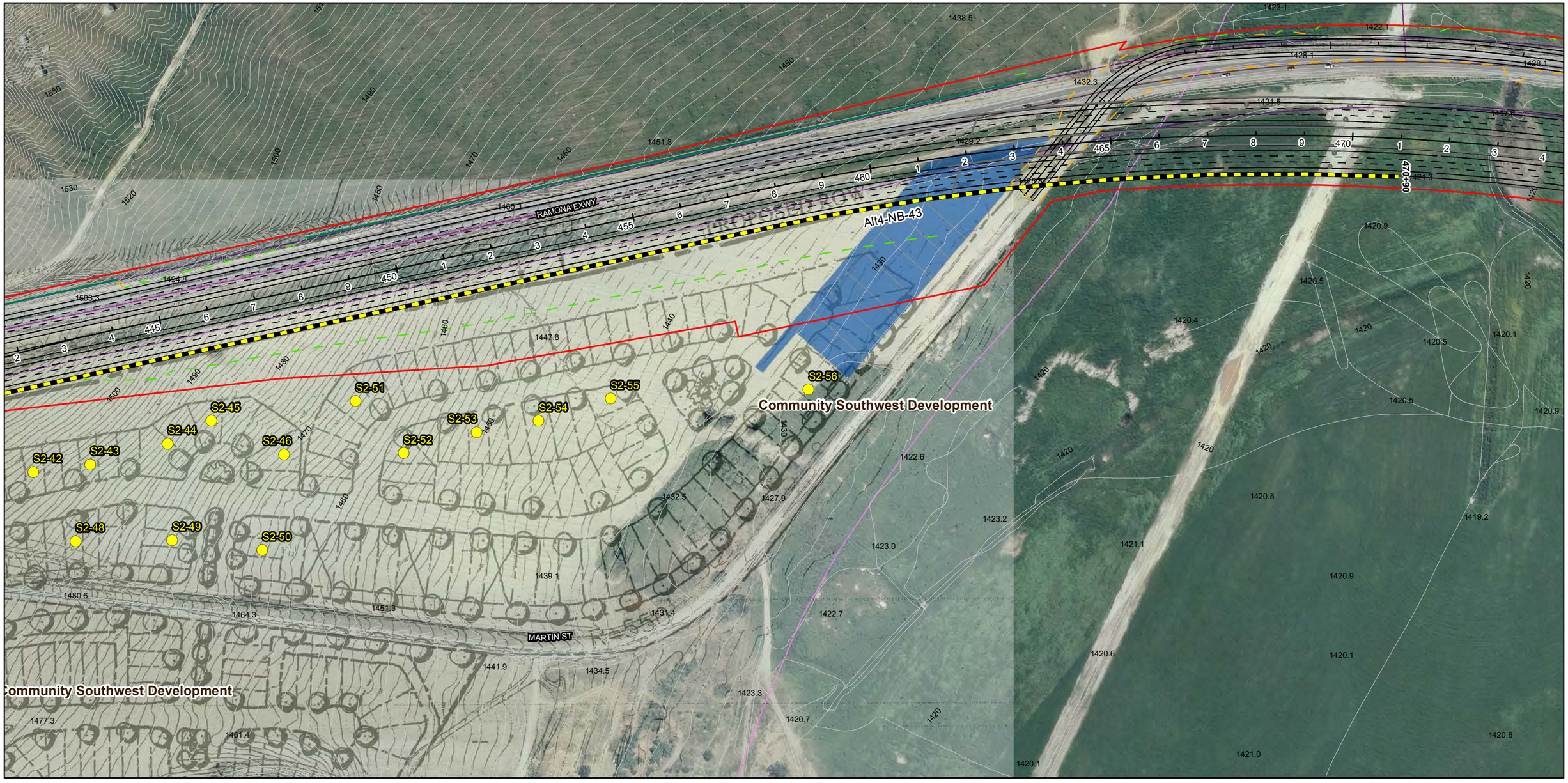
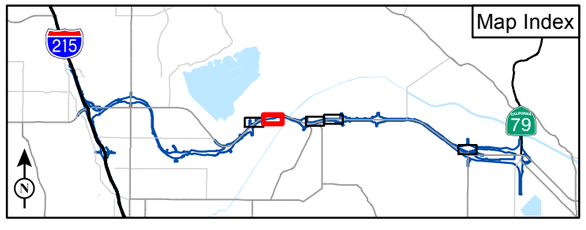


LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 4 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.



SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

FIGURE 3.15.2
Page 2 of 5

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 4 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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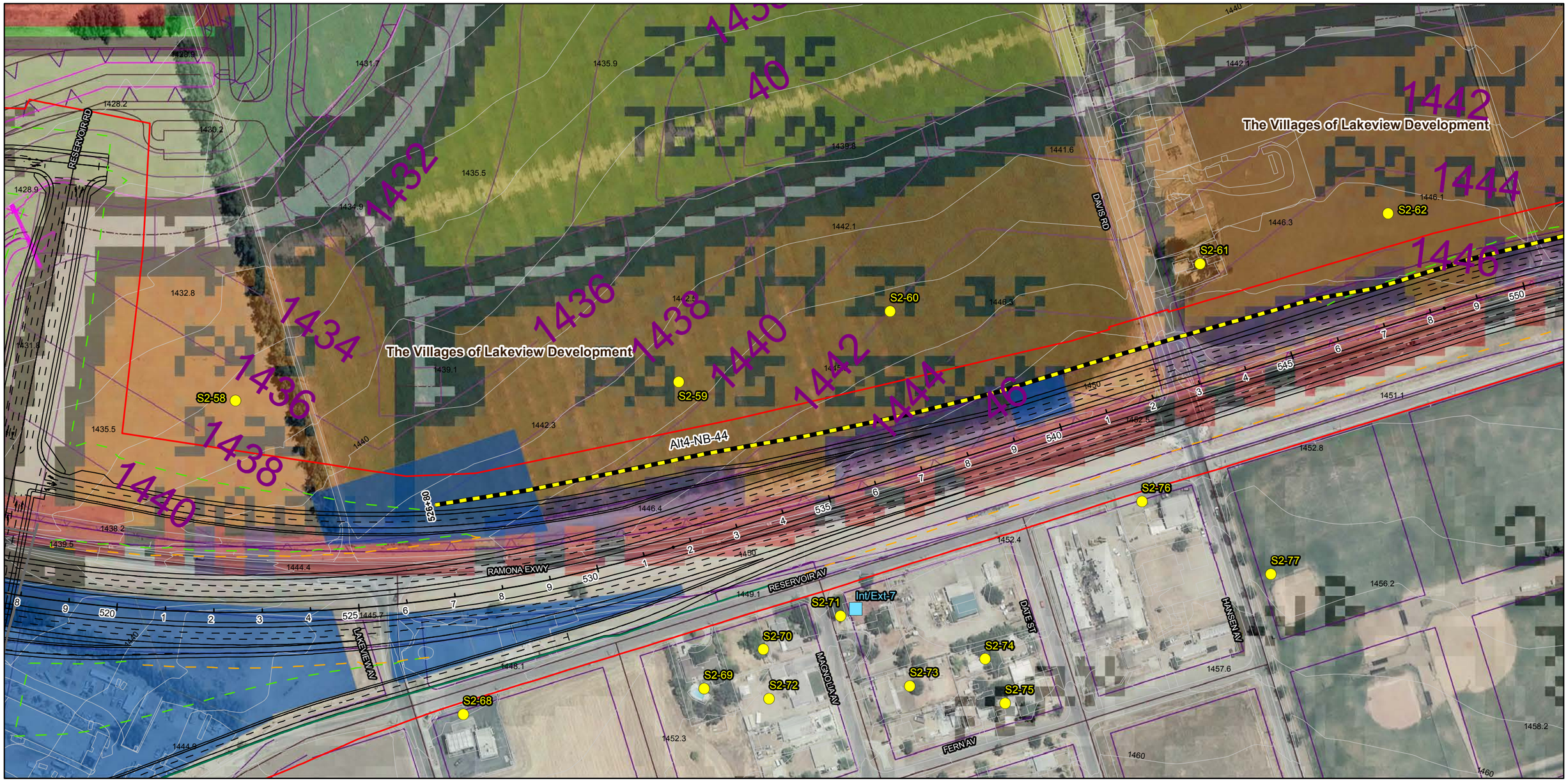

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 4 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
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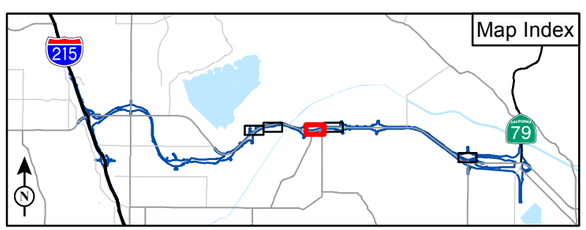

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

FIGURE 3.15.2
Page 3 of 5

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 4 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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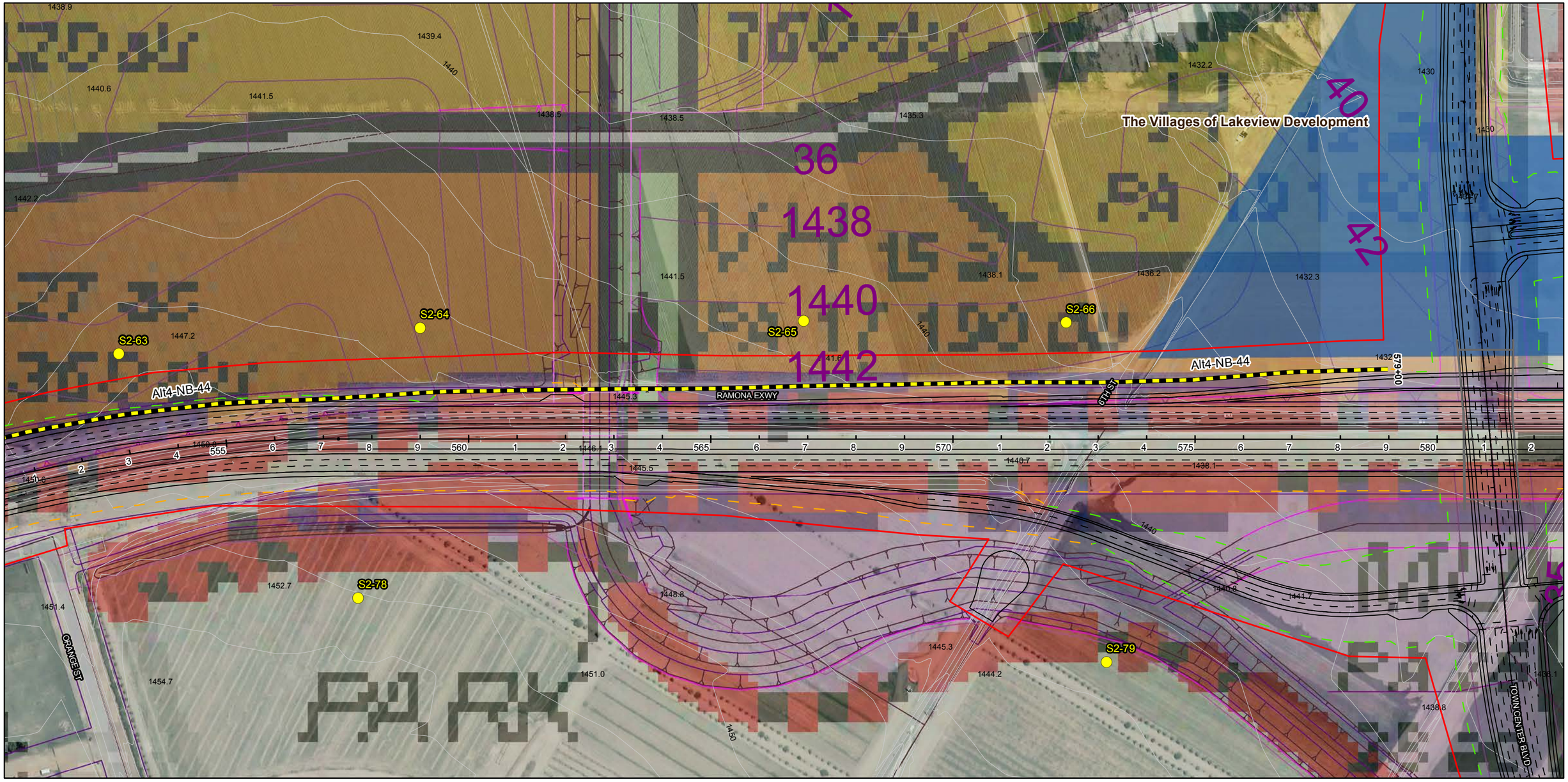

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 4 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
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Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.

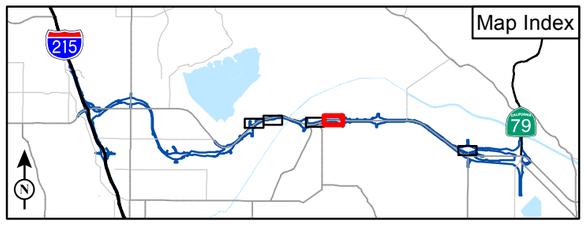

FIGURE 3.15.2
Page 4 of 5

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 4 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 4 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

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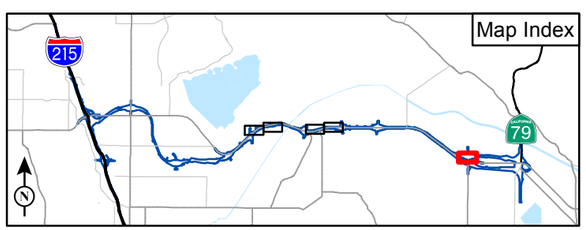

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

FIGURE 3.15.2
Page 5 of 5

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 4 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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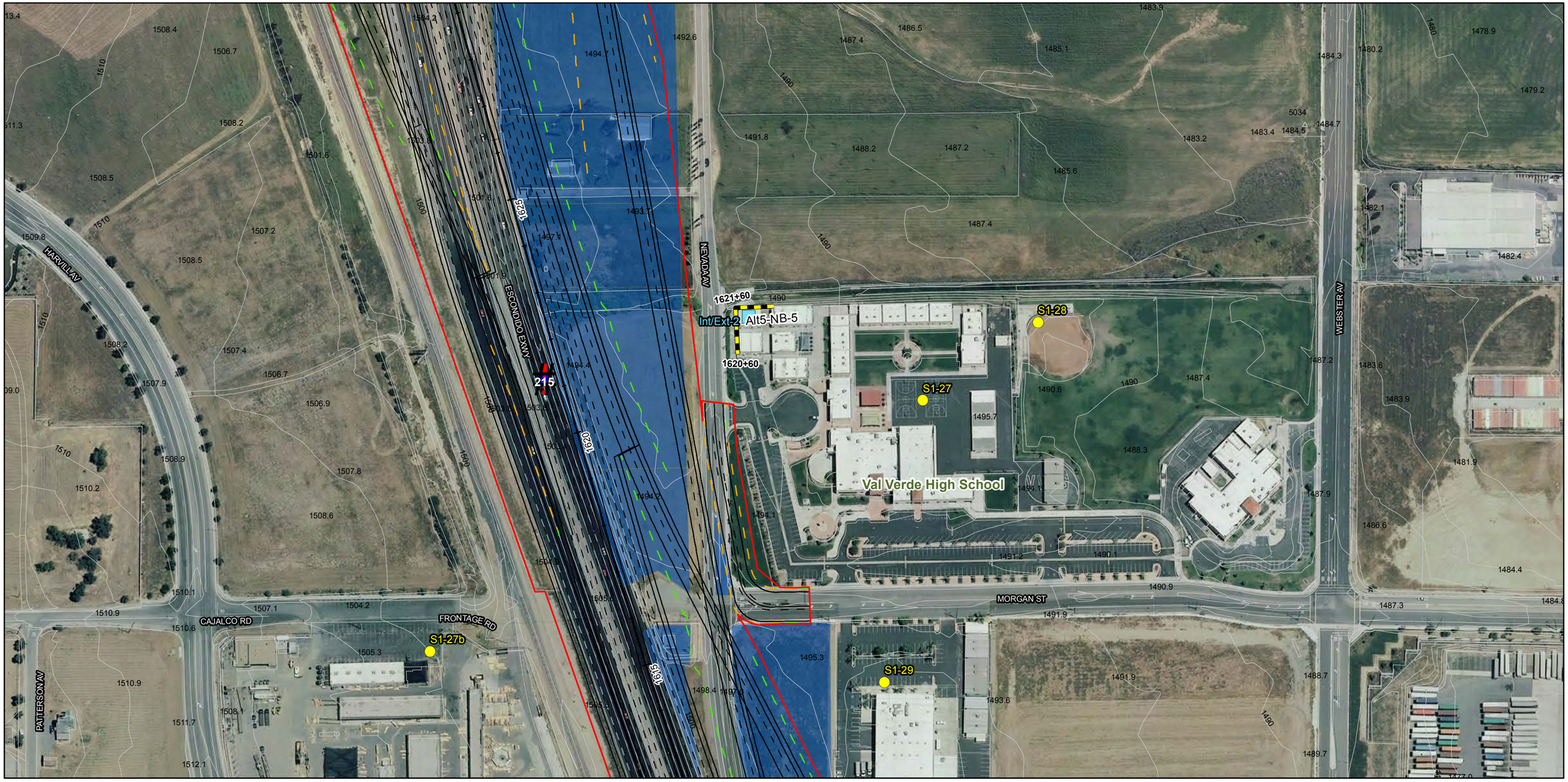
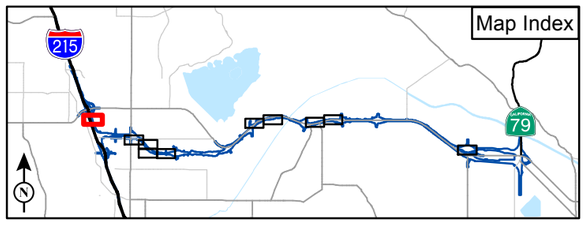


LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.



SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.3
Page 1 of 10

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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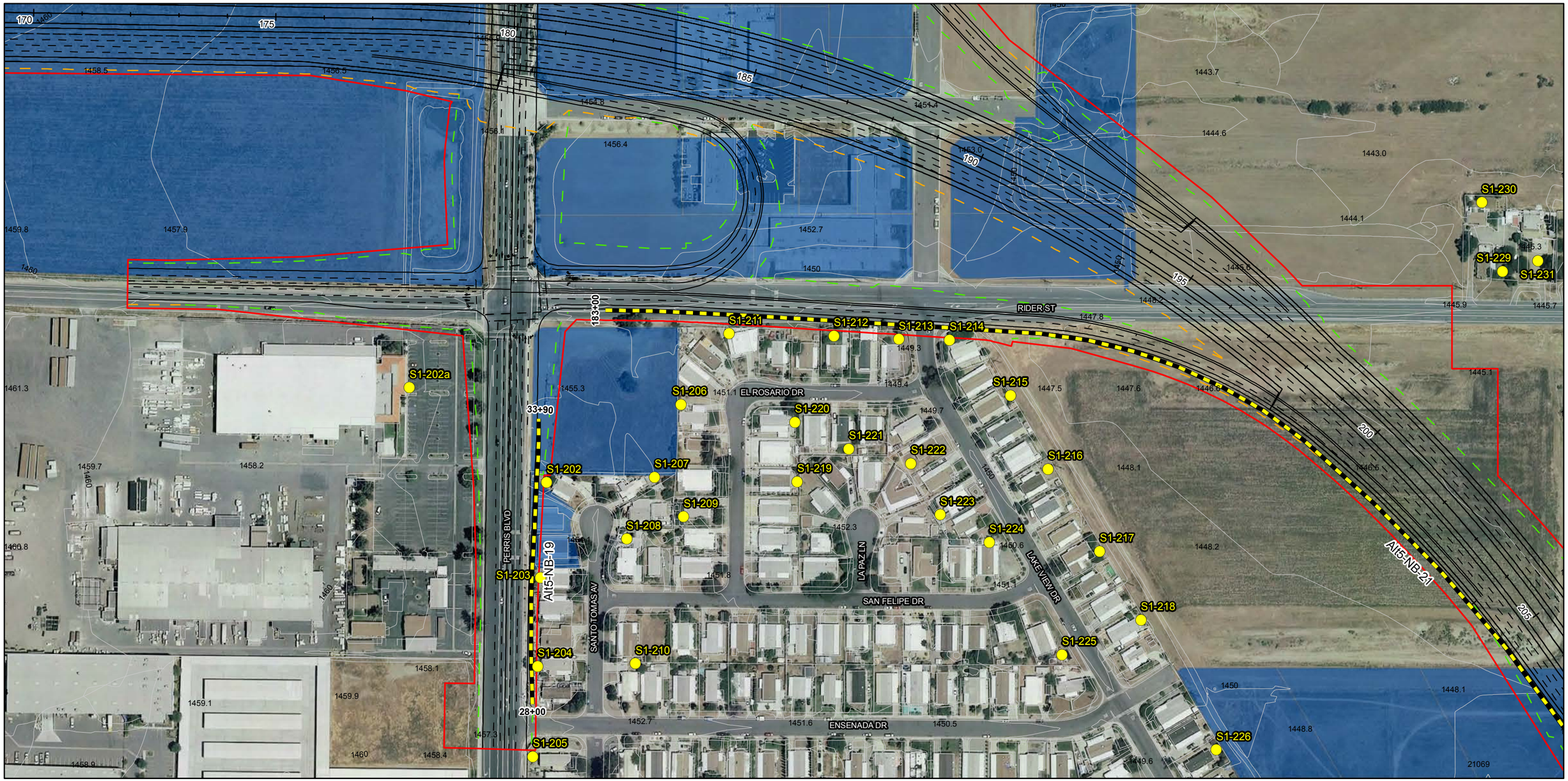

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
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Notes:
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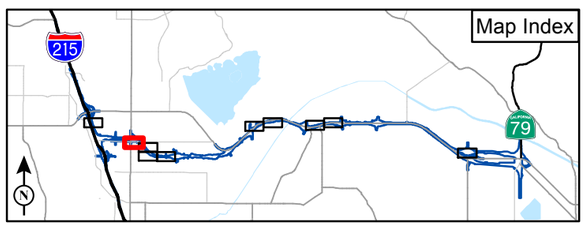

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.3
Page 2 of 10

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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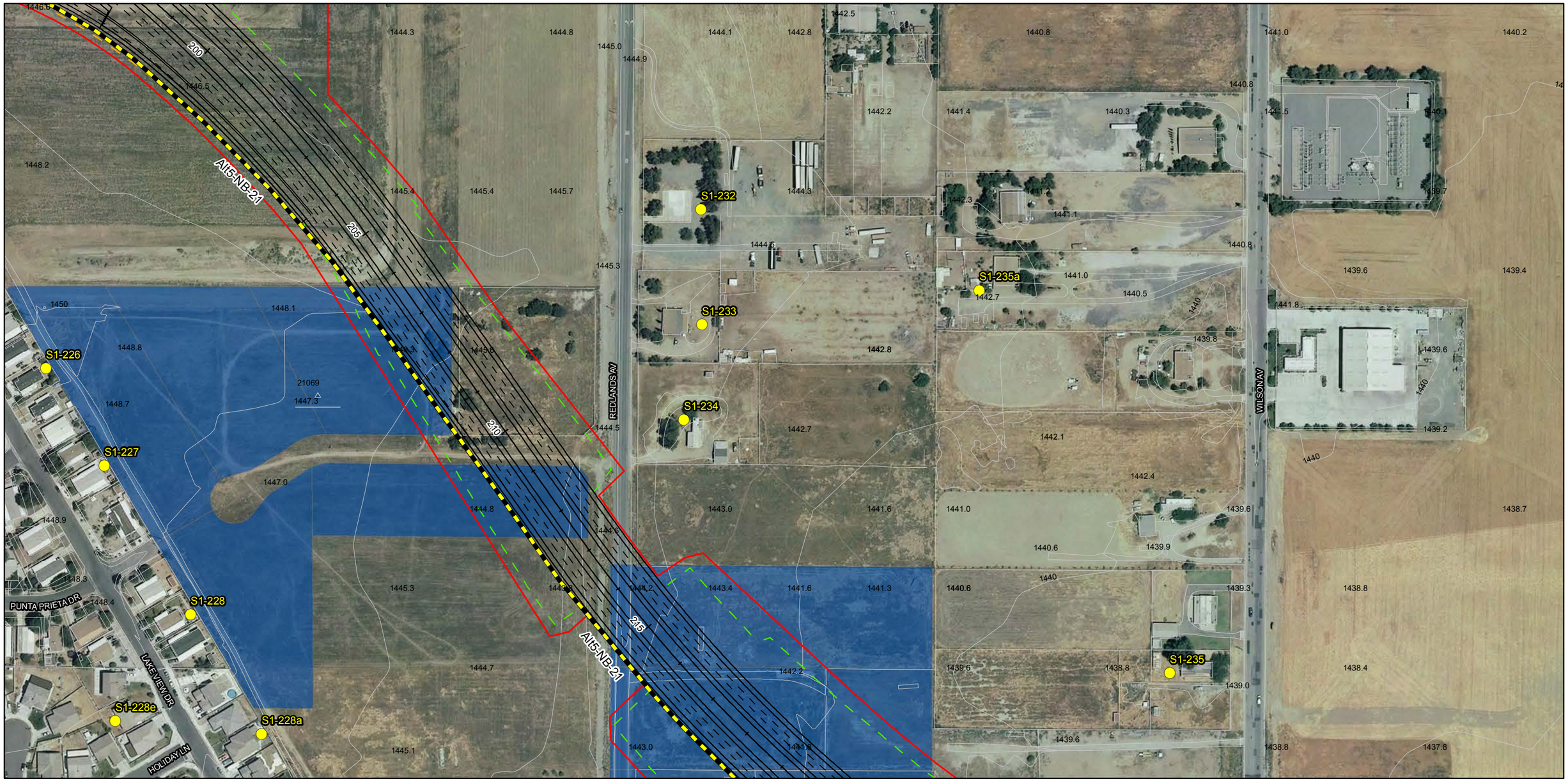

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
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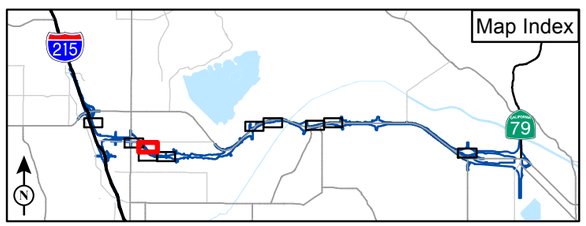

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.3
Page 3 of 10

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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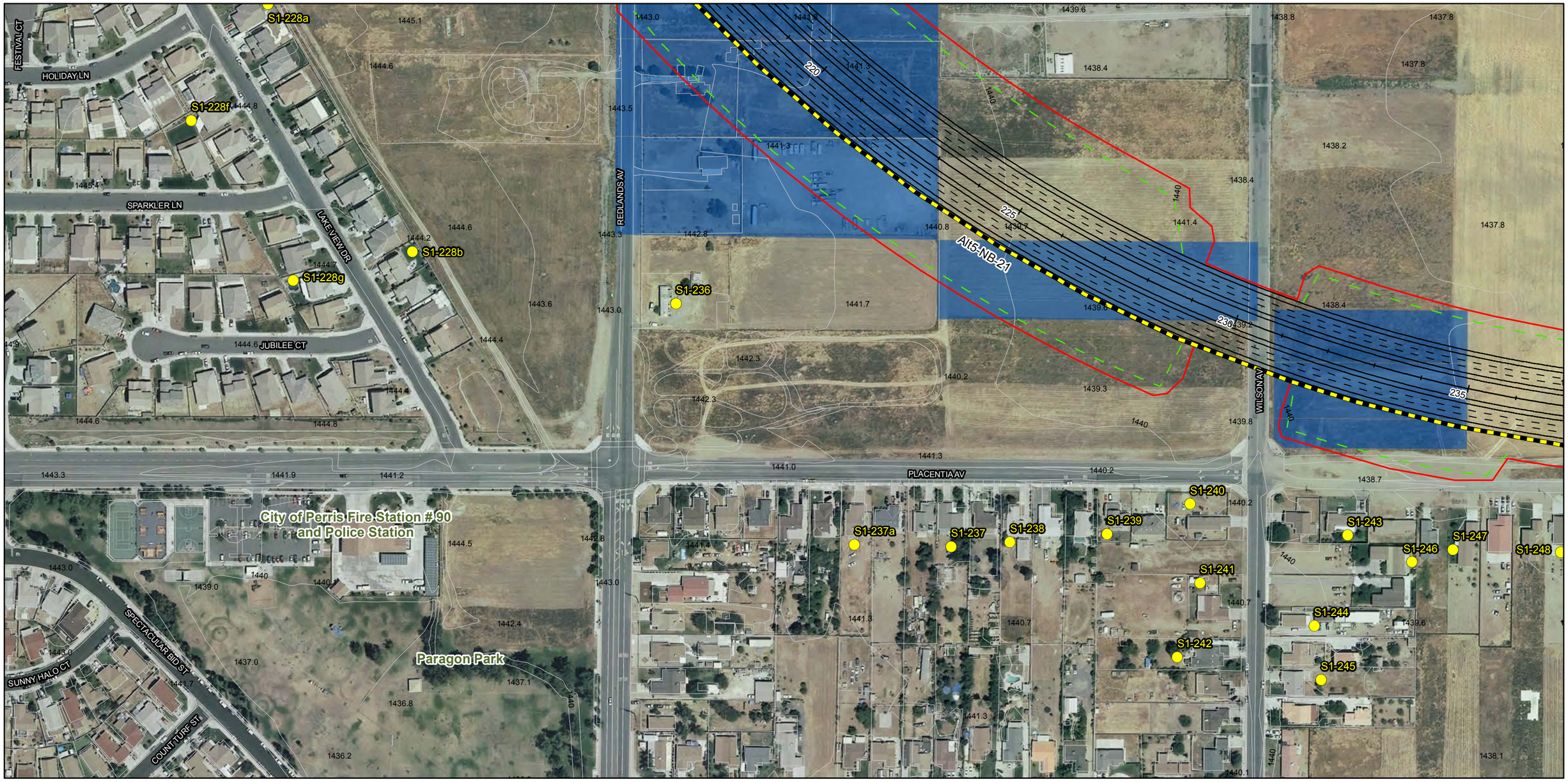

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
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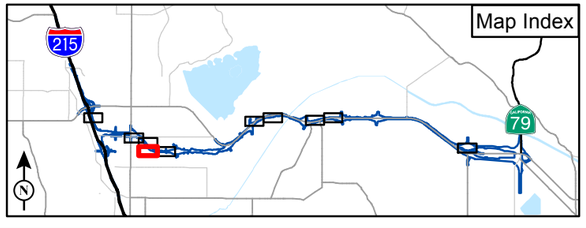

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.3
Page 4 of 10

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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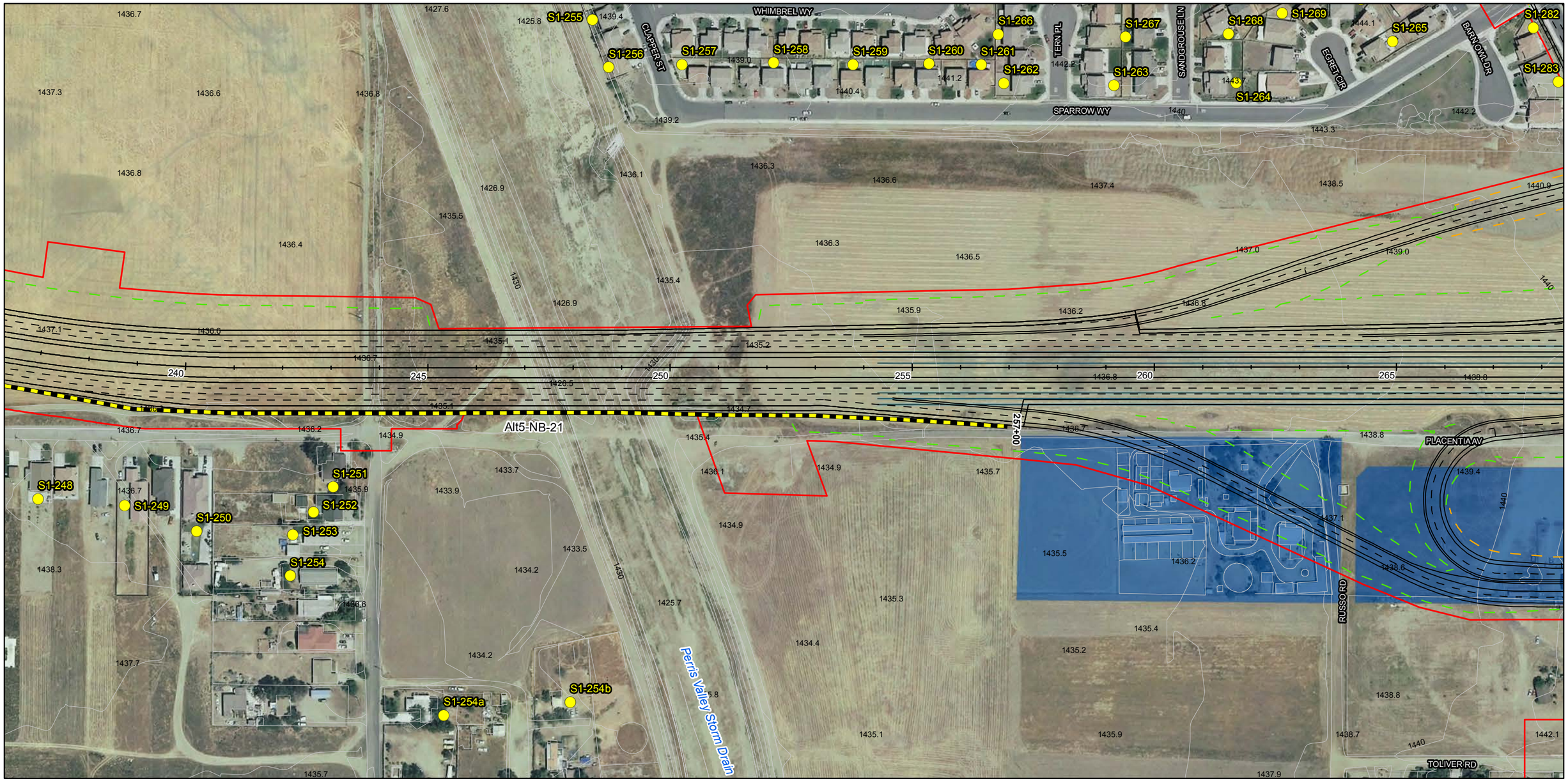

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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Notes:
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Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.

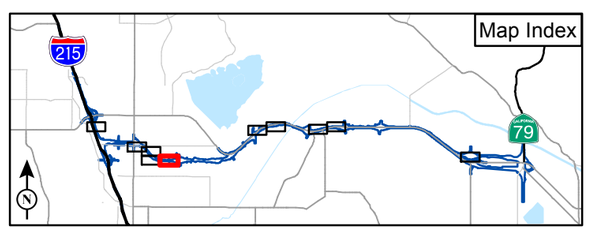

FIGURE 3.15.3
Page 5 of 10

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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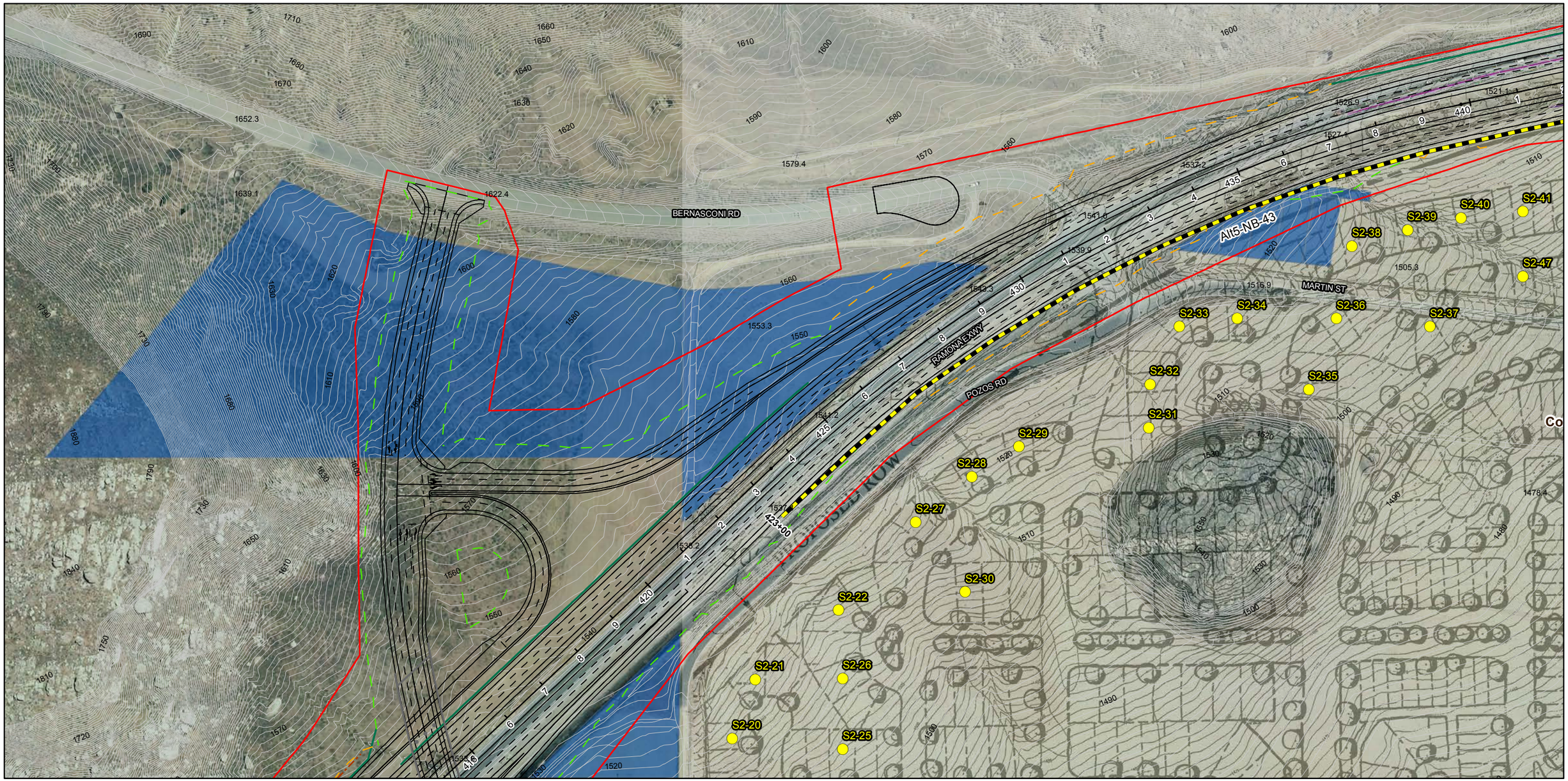

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

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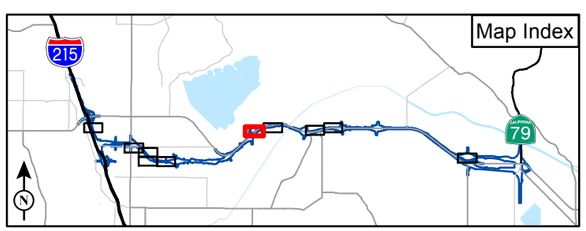

FIGURE 3.15.3
Page 6 of 10

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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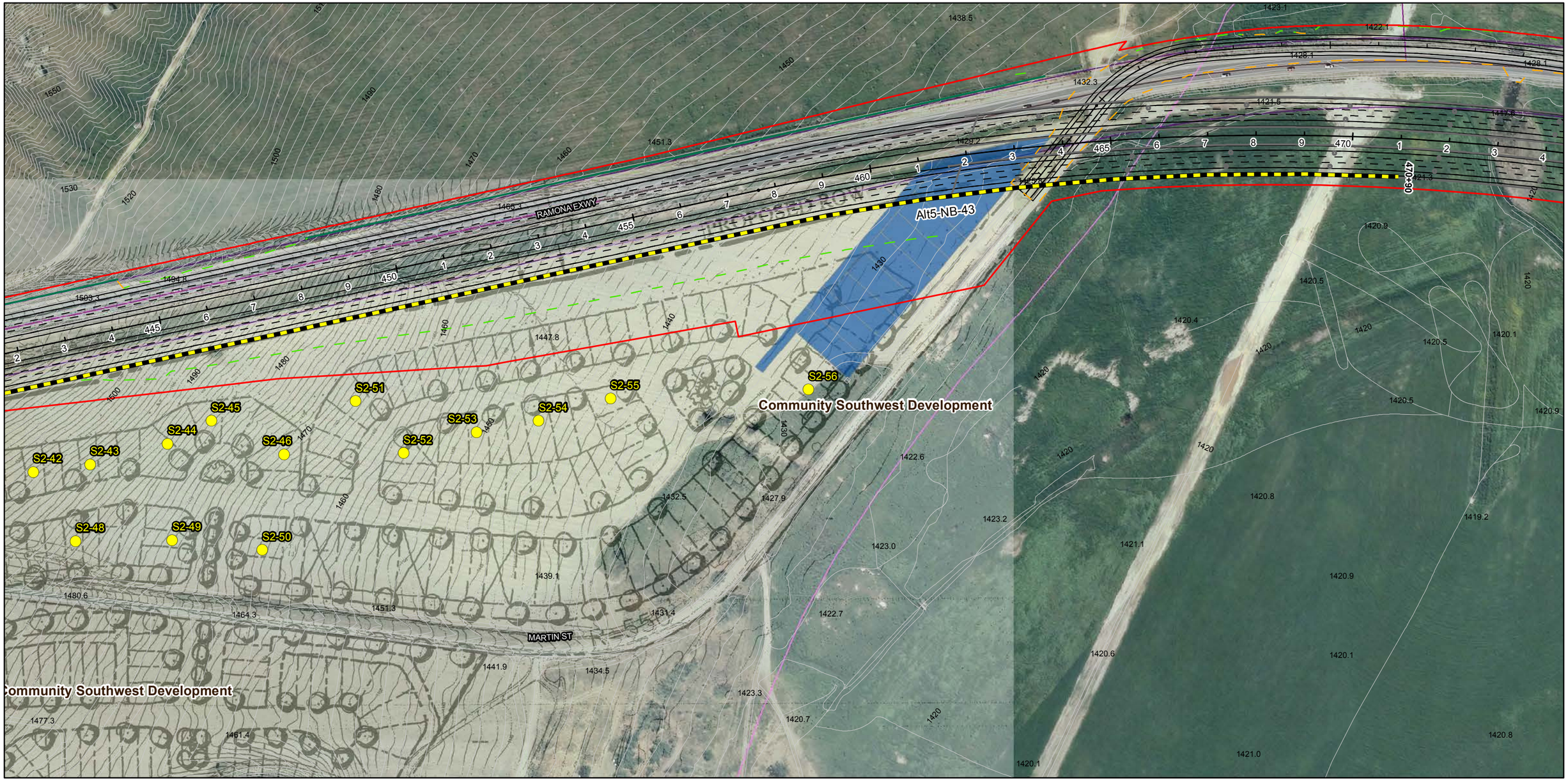
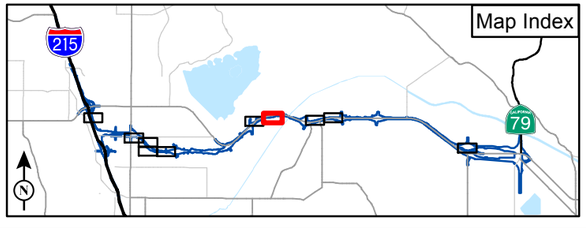


LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.



SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

FIGURE 3.15.3
Page 7 of 10

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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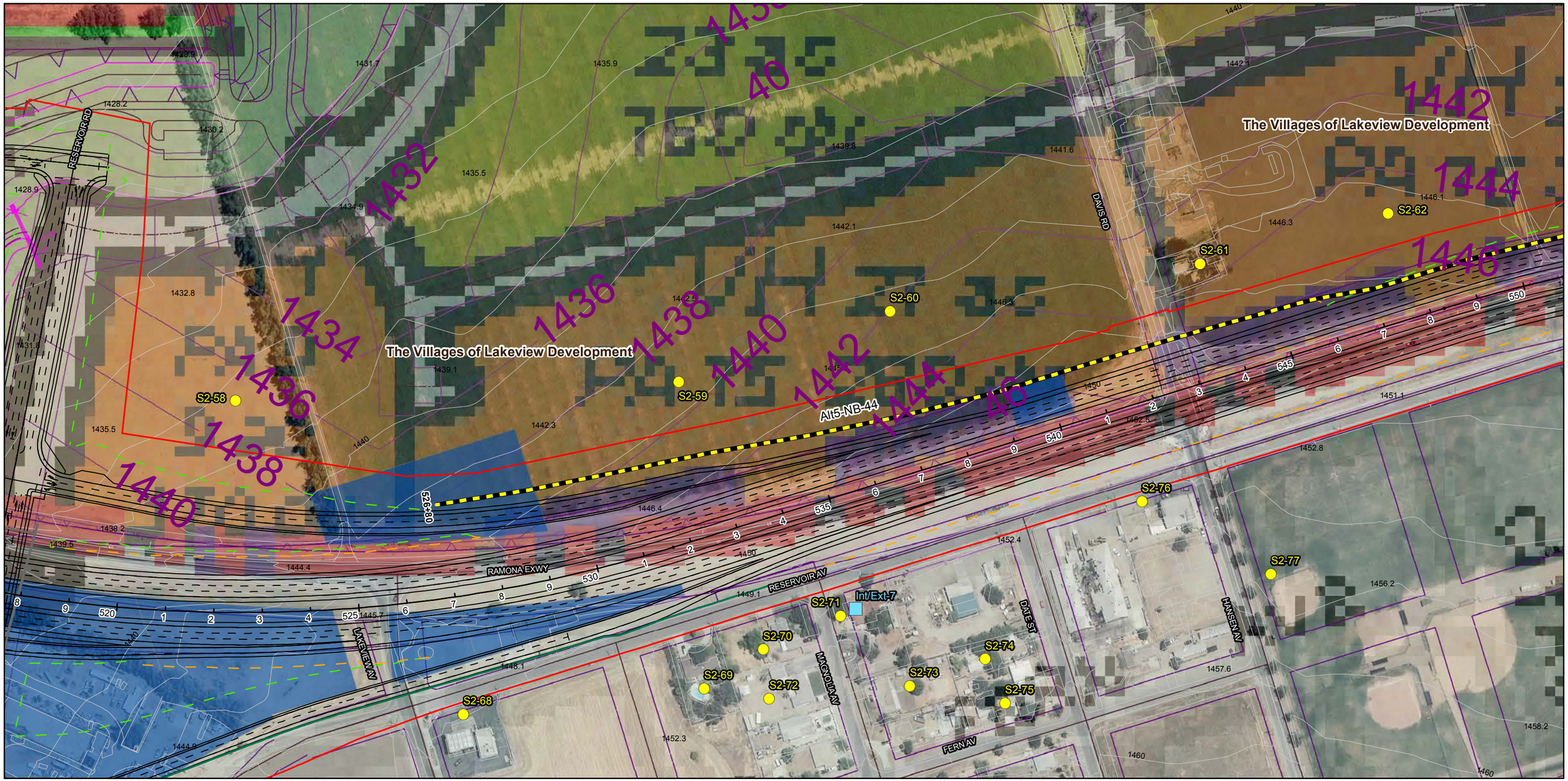
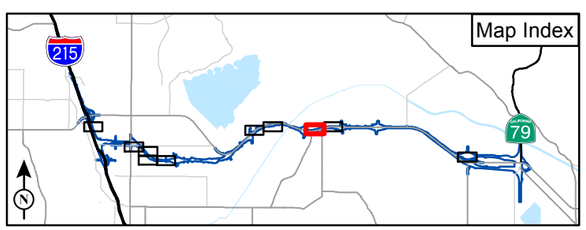


LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.



SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.3
Page 8 of 10

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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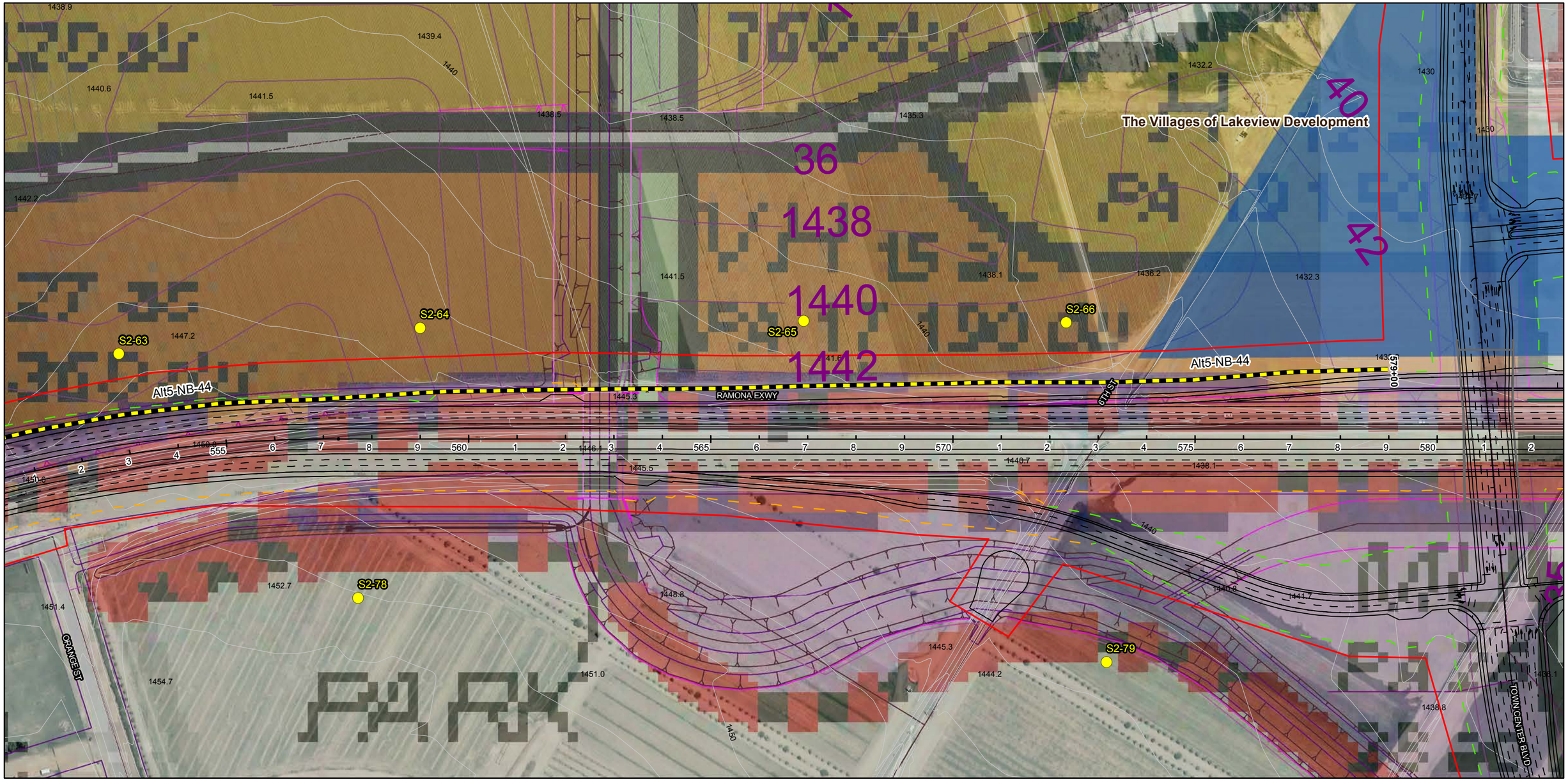
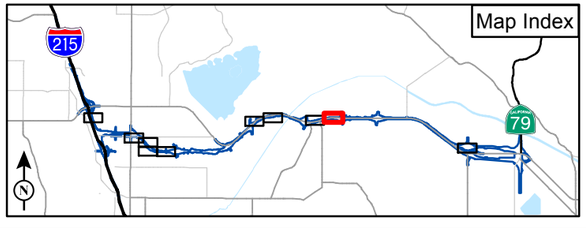


LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.



SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

FIGURE 3.15.3
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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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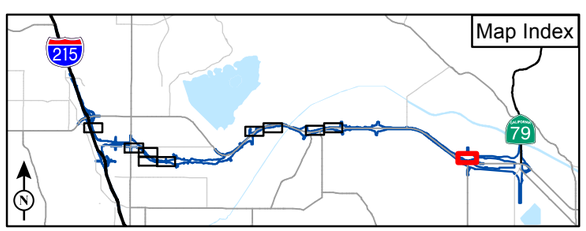
LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 5 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
Elevations for receptors at future developments in Community-Southwest are based on existing topo map since grading plans were not available.

Elevations for receptors at future developments in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.



SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

FIGURE 3.15.3
Page 10 of 10

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 5 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

MID COUNTY PARKWAY
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LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 9 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

Notes:
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Elevations for receptors at future developments in McCanna Hills and in The Villages of Lakeview (TVOL) are obtained from the latest available grading plan.

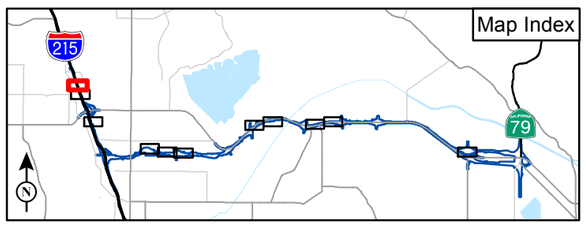

FIGURE 3.15.4
Page 1 of 11

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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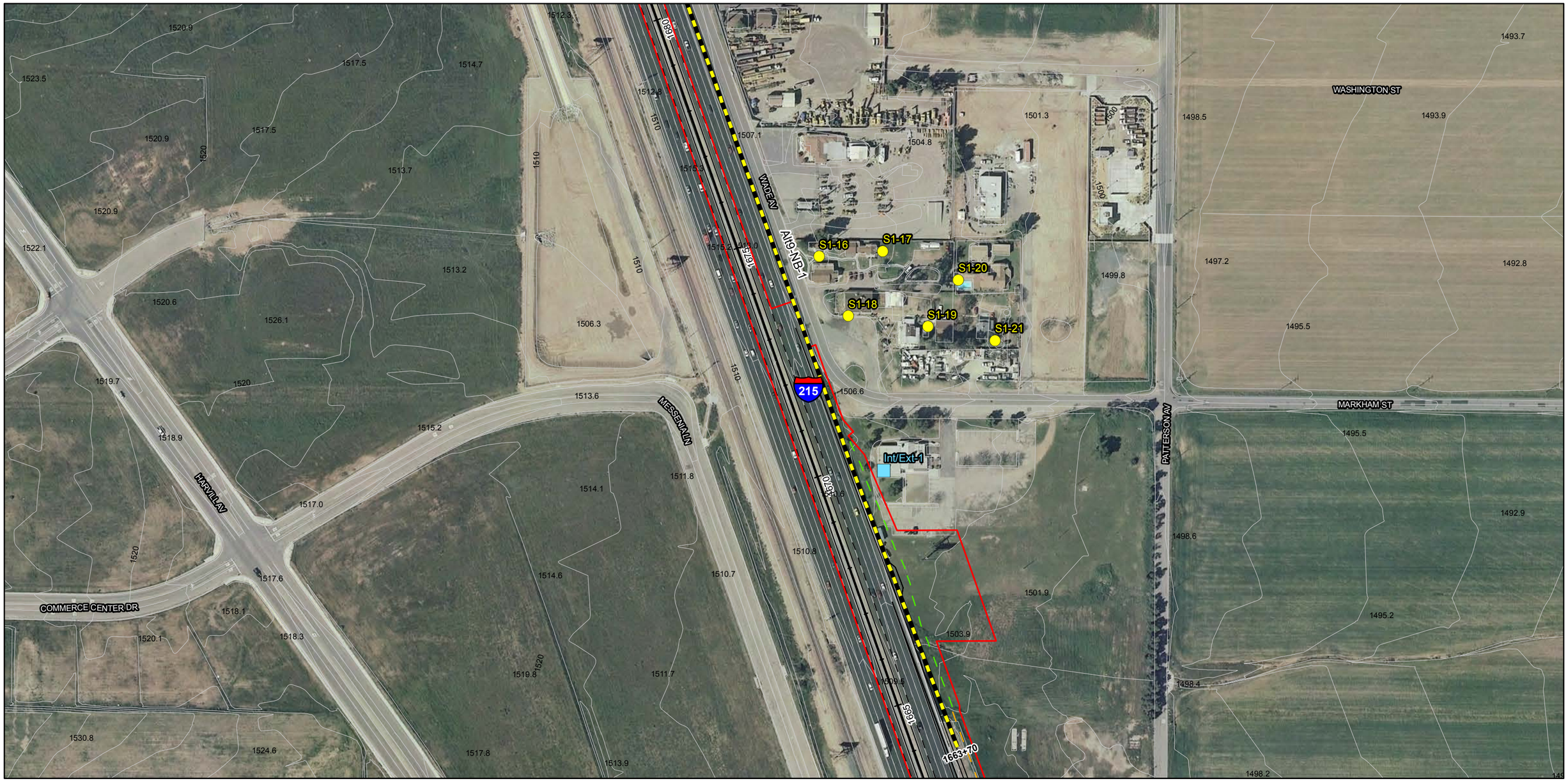

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 9 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
- Cut Line
- Fill Line

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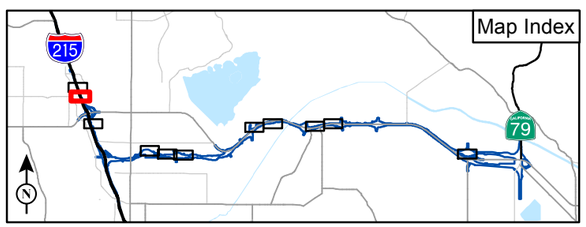

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.4
Page 2 of 11

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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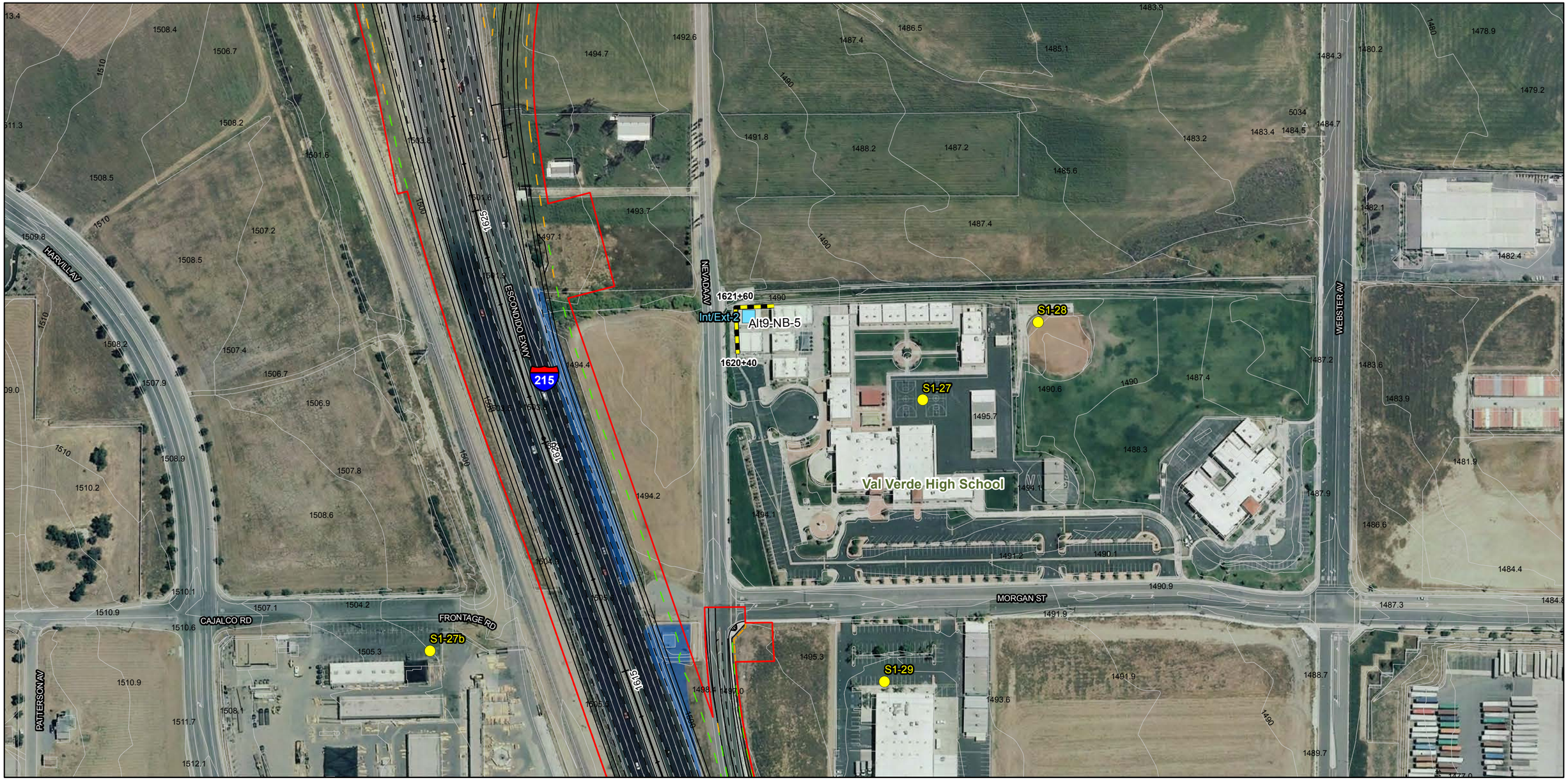

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 9 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
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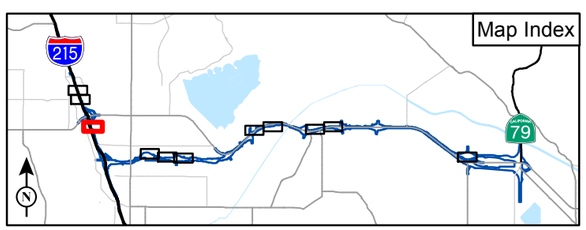

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.4
Page 3 of 11

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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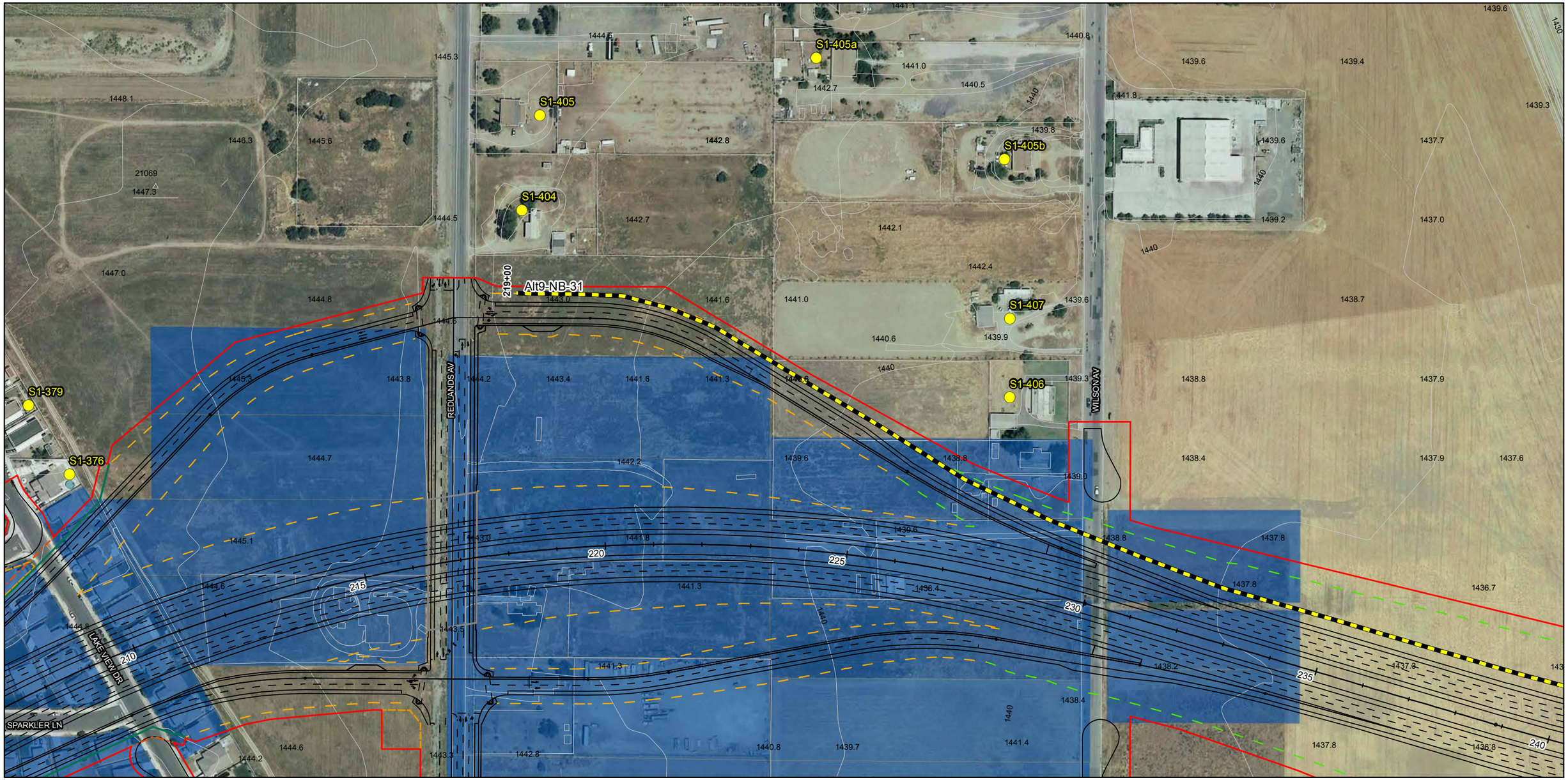

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 9 Modified Alignment
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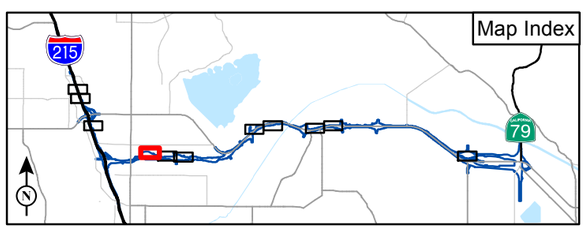

FIGURE 3.15.4

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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

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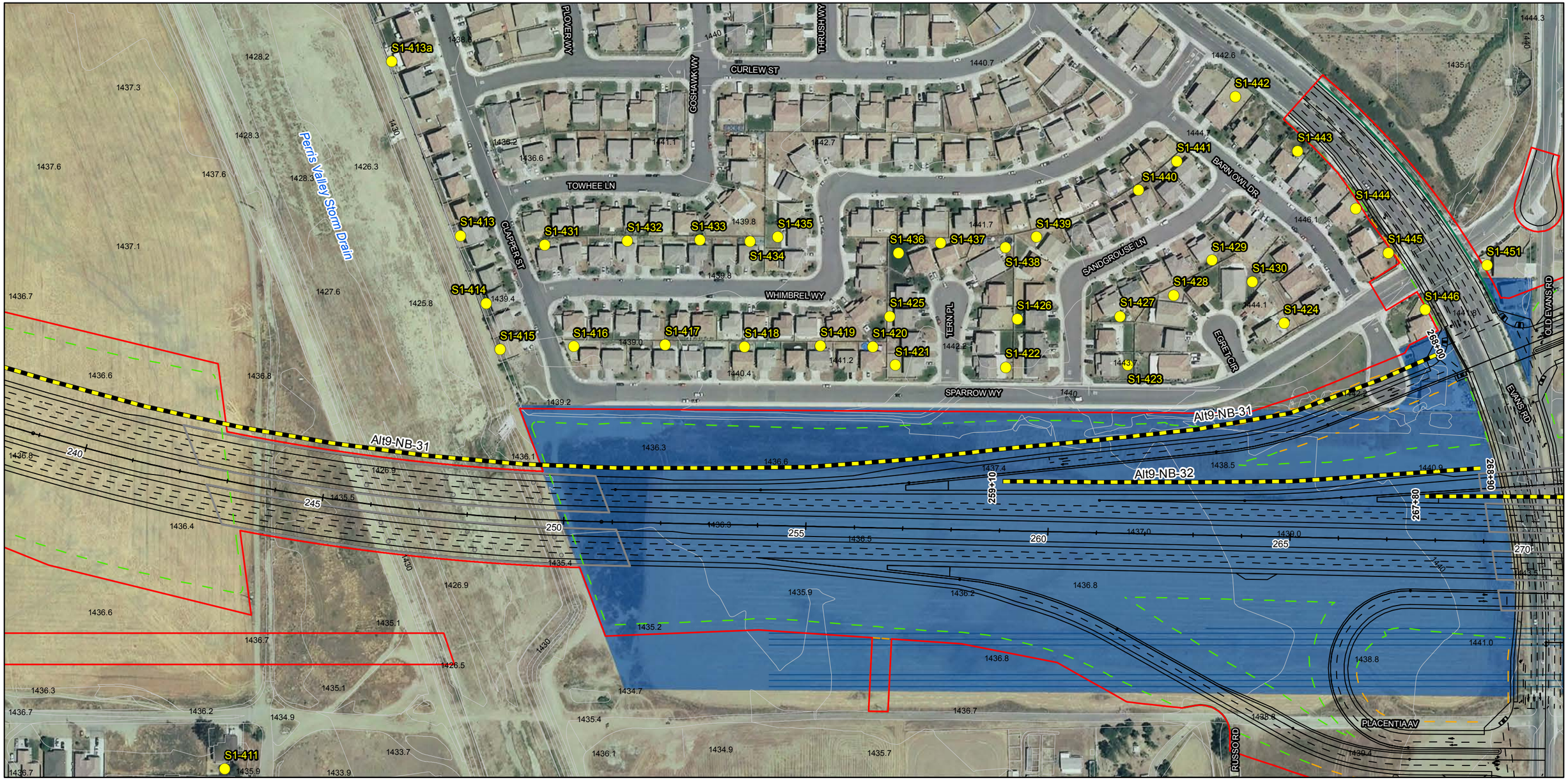

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
- Alternative 9 Modified Alignment
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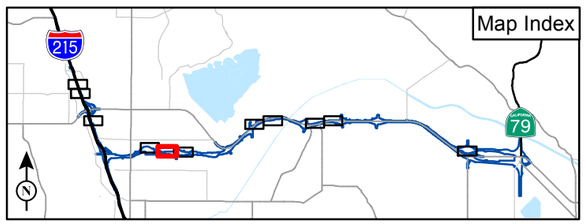

FIGURE 3.15.4
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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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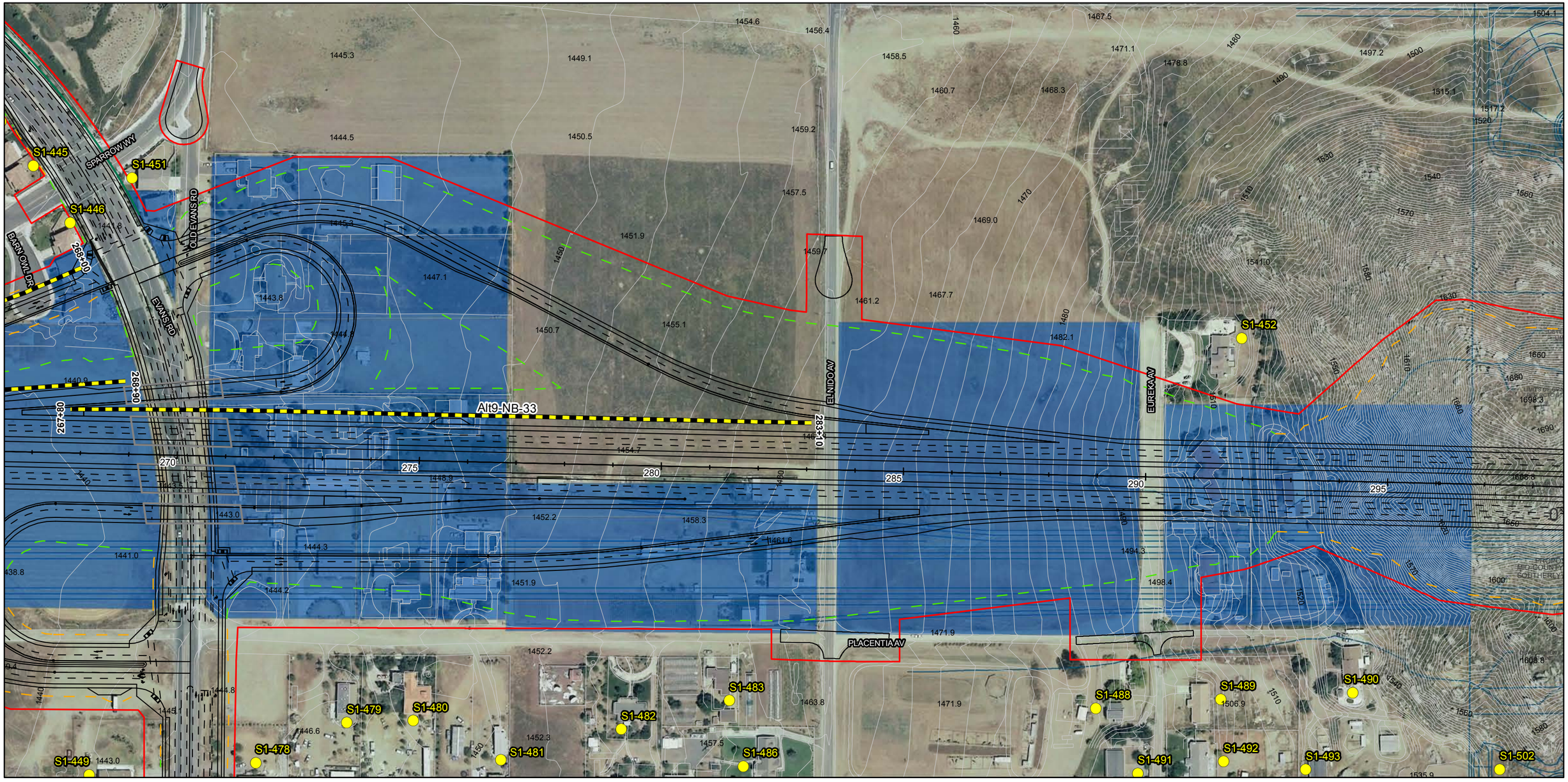

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
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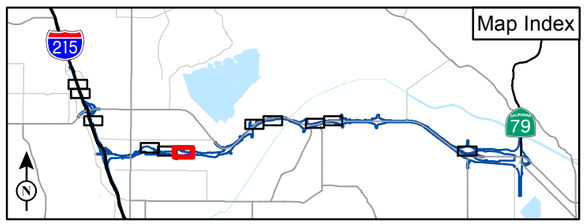

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.4
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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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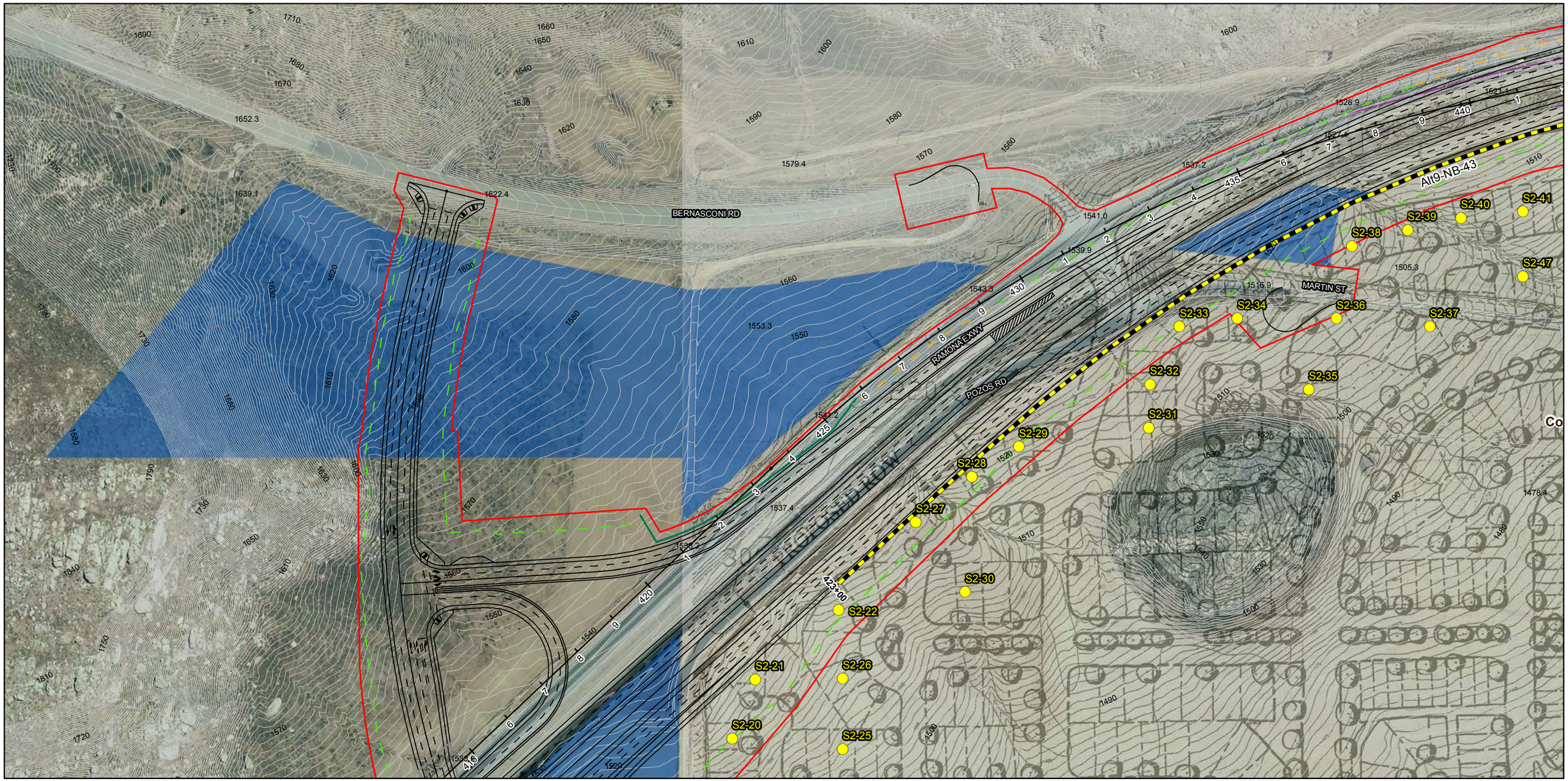

LEGEND

- Modeled Receptor Locations
- Interior/Exterior Monitored Location
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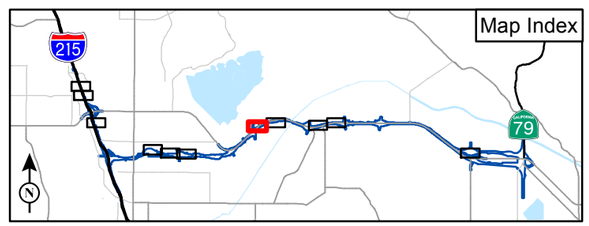

FIGURE 3.15.4
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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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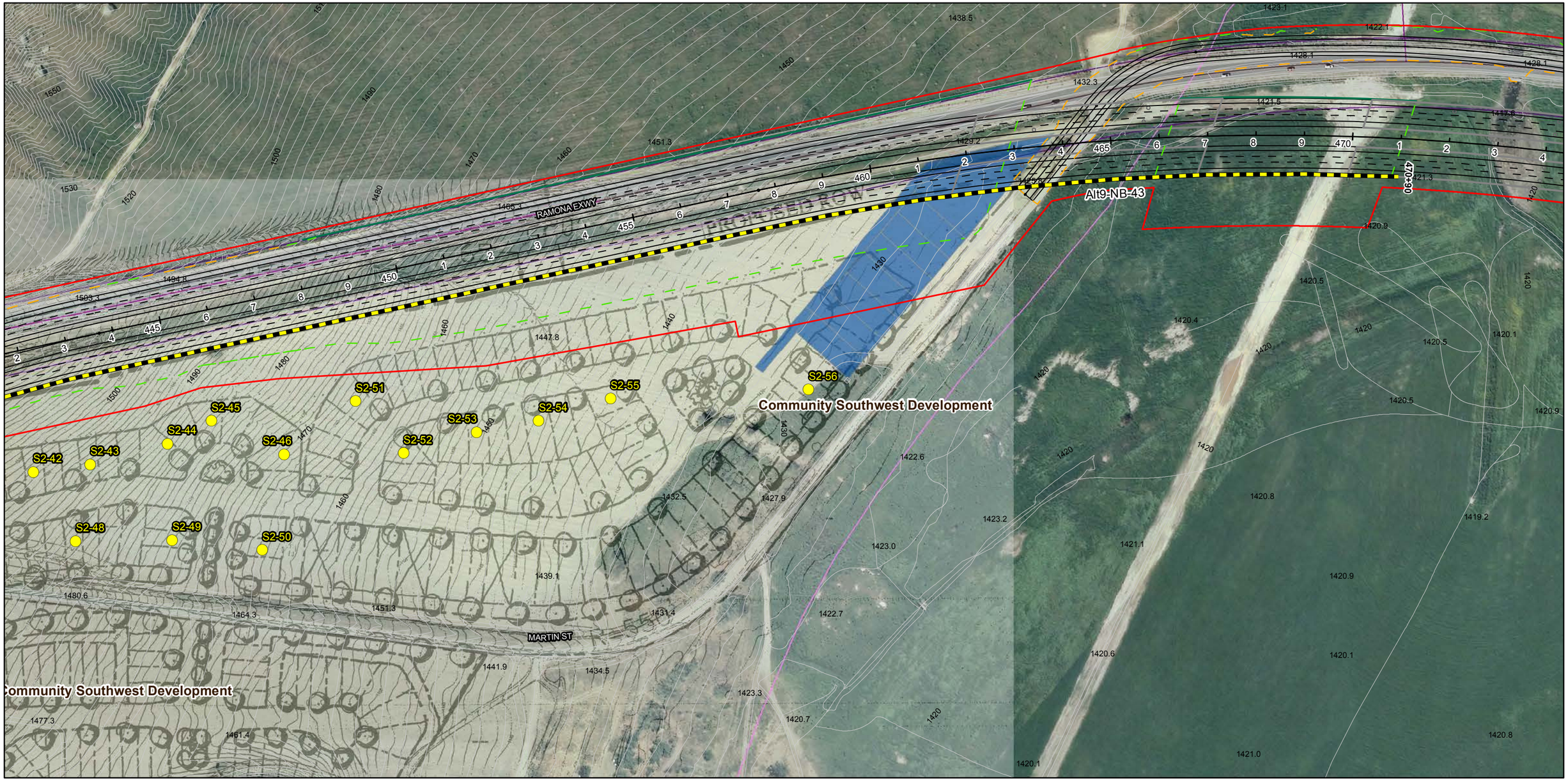

LEGEND

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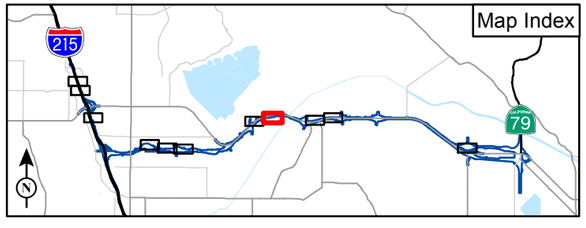

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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FIGURE 3.15.4
Page 8 of 11

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
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LEGEND

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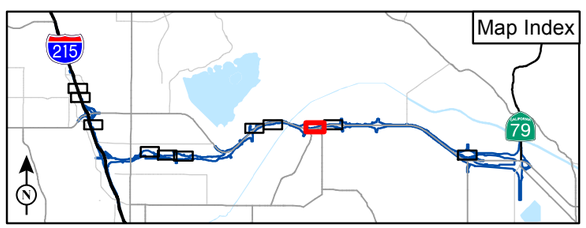

FIGURE 3.15.4
Page 9 of 11

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
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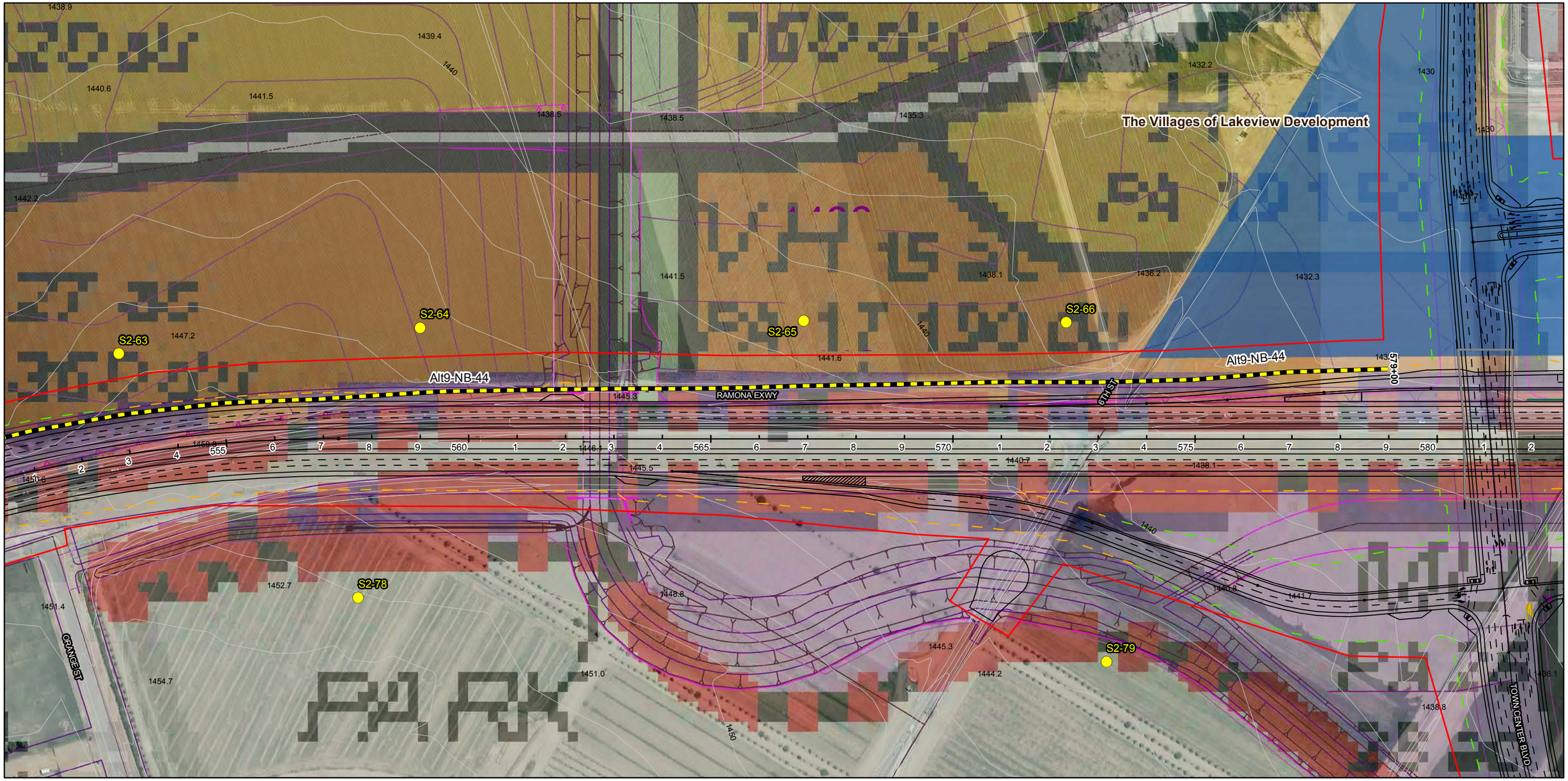

LEGEND

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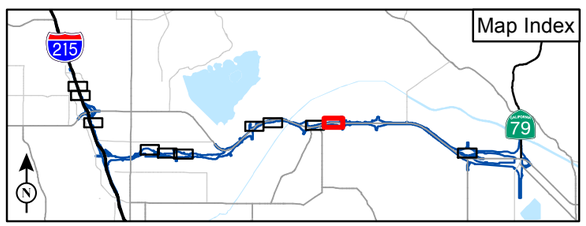

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

FIGURE 3.15.4
Page 10 of 11

Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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LEGEND

- Modeled Receptor Locations
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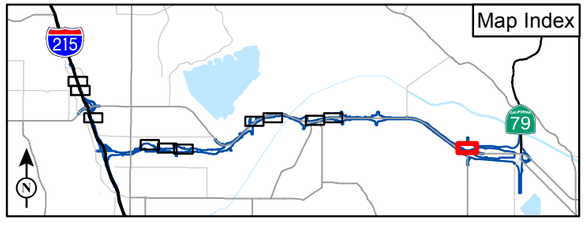

FIGURE 3.15.4
Page 11 of 11

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

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Feasible and Reasonable Noise Barriers and Receptor Locations - Alternative 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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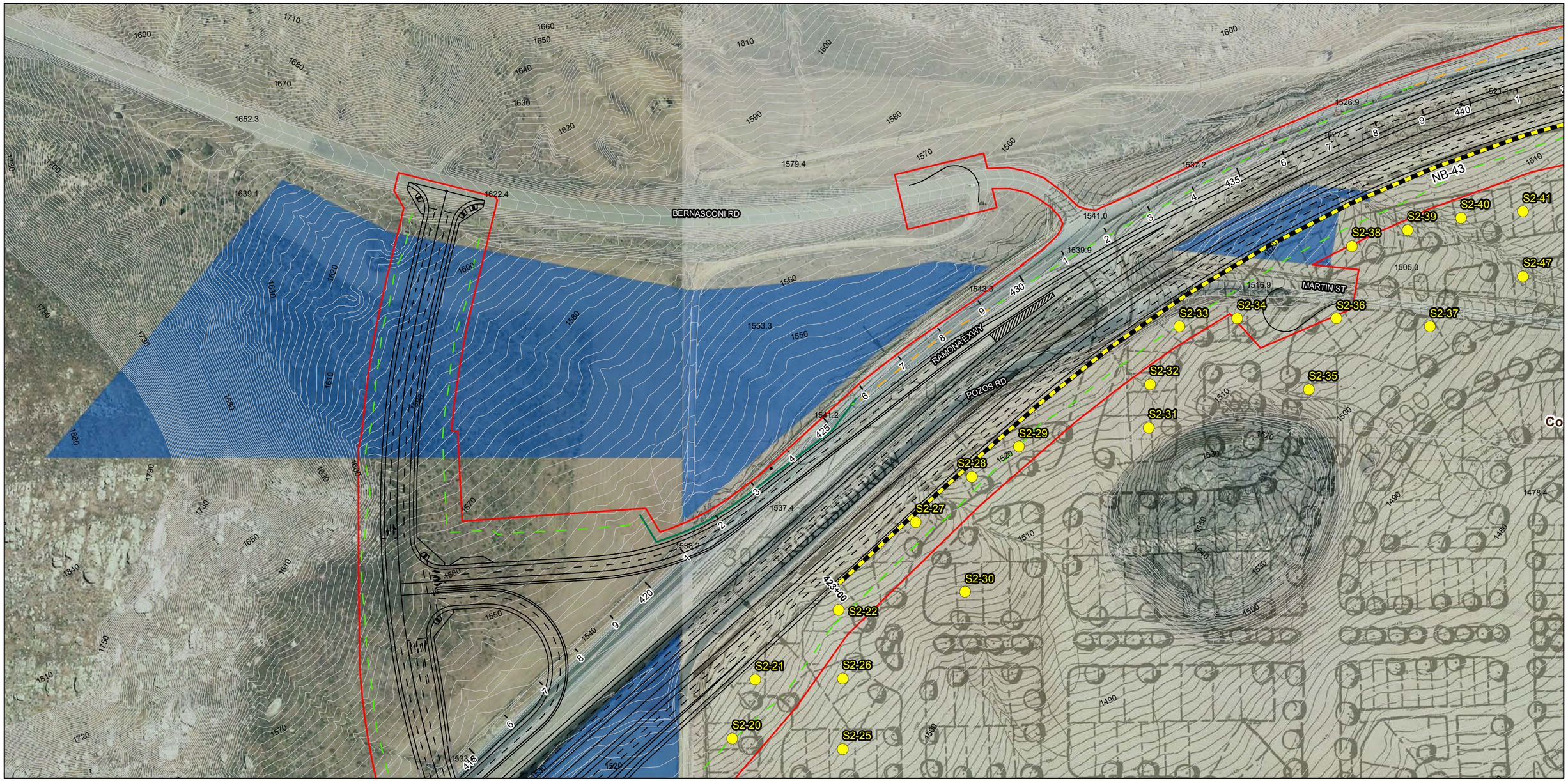

LEGEND

- Modeled Receptor Locations
- Alternative 9 Modified Alignment
- Limits of Proposed Improvements
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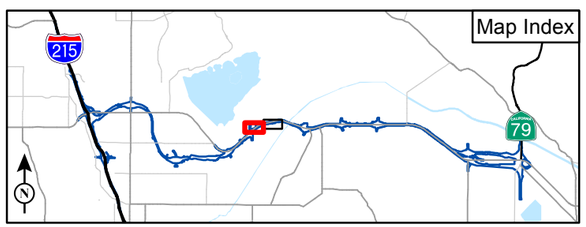

FIGURE 3.15.5
Page 1 of 2

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

Feasible and Reasonable Noise Barriers and Receptor Locations - San Jacinto River Bridge Design Variation for Alternatives 4, 5 and 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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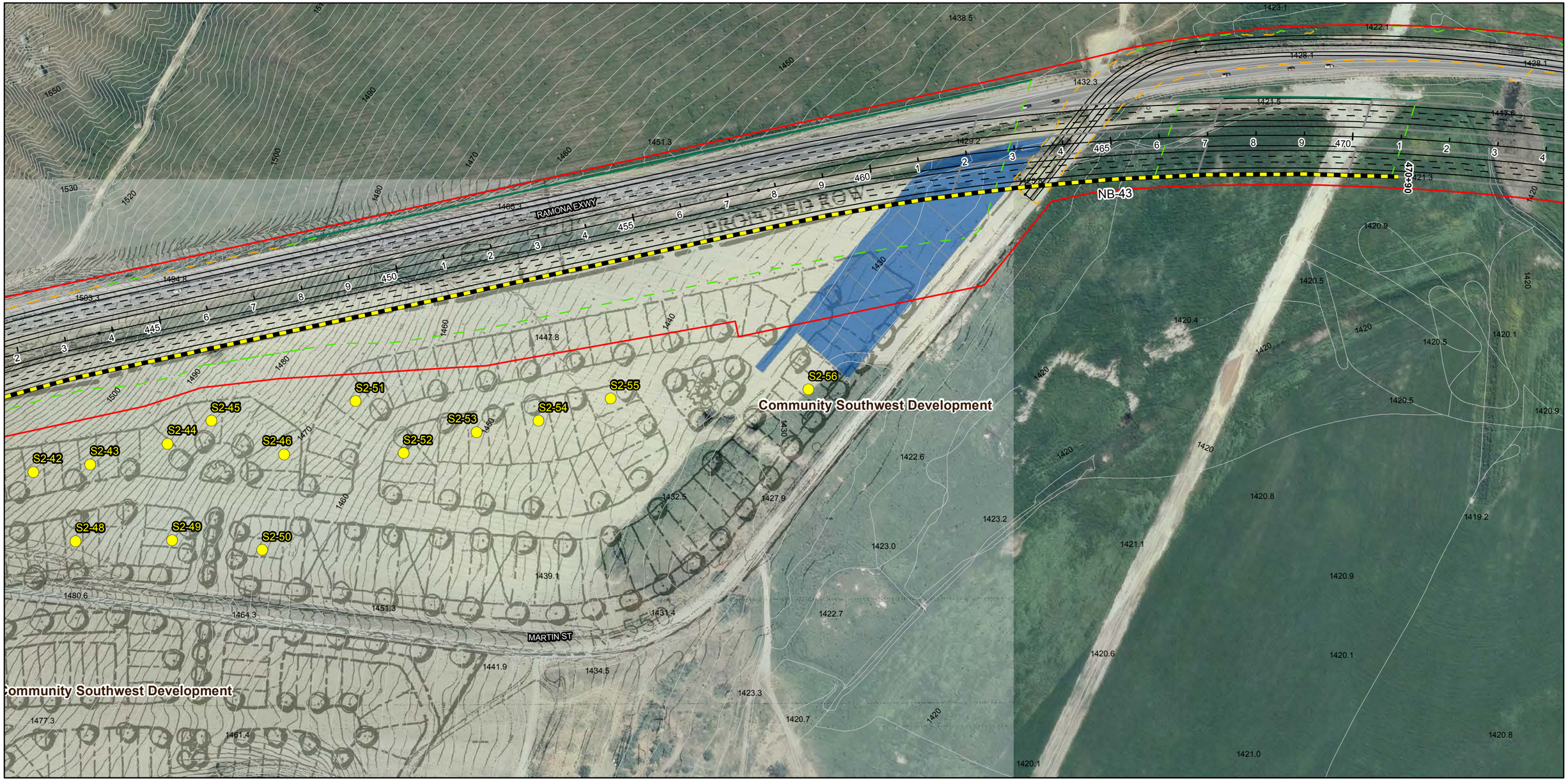

LEGEND

- Modeled Receptor Locations
- Alternative 9 Modified Alignment
- Limits of Proposed Improvements
- Full Property Acquisition
- Proposed Noise Barriers
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- Fill Line

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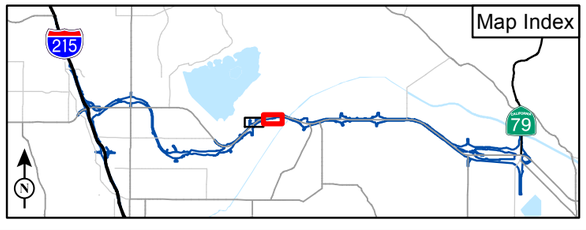

FIGURE 3.15.5
Page 2 of 2

SOURCE: Jacobs Engineering (02/2011); Eagle Aerial (2010); LSA (2011)

0 100 200 FEET

Feasible and Reasonable Noise Barriers and Receptor Locations - San Jacinto River Bridge Design Variation for Alternatives 4, 5 and 9 Modified

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)

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